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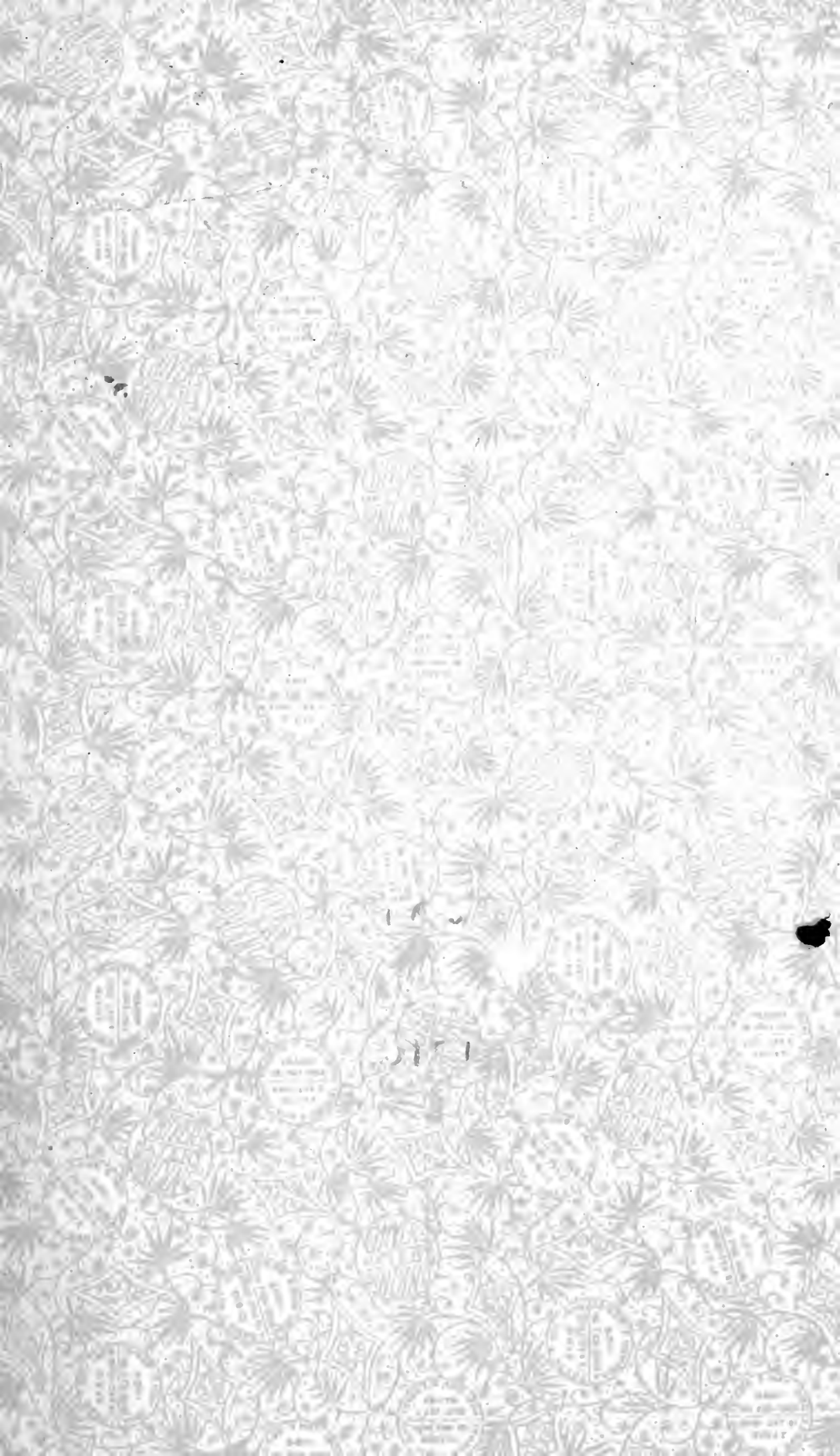
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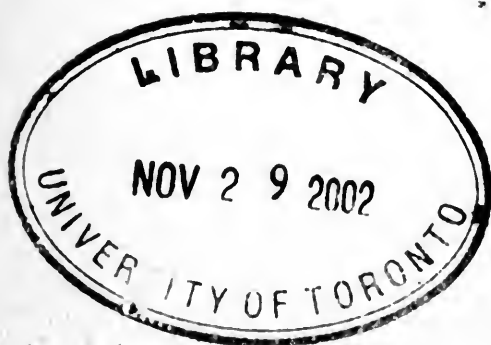
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# THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

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JULY 1, 1913.

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## PART I. ORIGINAL COMMUNICATIONS.

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ART. I.—*Clinical Report of the Rotunda Hospital for One Year, November 1st, 1911, to October 31st, 1912.*<sup>a</sup>  
By HENRY JELLETT, M.D. (Dubl. Univ.), F.R.C.P.I., Master; and DAVID G. MADILL, M.B. (Dubl. Univ.), and R. MARSHALL ALLAN, M.B. (Edin. Univ.), Assistant Masters.

### MIDWIFERY REPORT.

DURING the year ending October 31st, 1912, 2,339 patients were delivered under the care of the Hospital in its Extern Department, and 2,474 patients were admitted to the Maternity Wards. Of the latter number, 338, who were not in labour, were discharged undelivered, and 2,136 were delivered. Thus a total of 4,475 labours in all were attended by the Hospital Staff, being an increase of 26 on the previous year.

Ten deaths occurred in the Extern Department, and eleven in the Intern, being a percentage mortality of 0.42 in the former and of 0.44 in the latter, or a mean percentage mortality of 0.43.

<sup>a</sup> Read in the Section of Obstetrics of the Royal Academy of Medicine in Ireland on Friday, April 18, 1913.

The mortality percentage and average in the Intern Maternity Department is calculated on the total admissions, and not, as heretofore, on the total deliveries. The reason for this is obvious. Formerly if a woman was under treatment for eclampsia at the sixth month and died she was counted amongst the deaths, whereas if she recovered and left the Hospital undelivered, she was not included under the recoveries, thus giving an exaggerated idea of the actual mortality rate.

#### EXTERN DEPARTMENT.

TABLE I.—*Nature and Number of Cases Treated.*

Total Deliveries - - -	2,339	Operations—	
Presentations—		Manual removal of	
Vertex - - -	1,952	placenta - - -	18
„ Face to pubes - - -	12	Forceps - - -	54
Face - - -	8	Version - - -	8
Brow - - -	4	Suture of perinæal lacerations - - -	186
Breech - - -	66		
Transverse - - -	5	Maternal mortality— - -	10
Twins - - -	32		
Triplets - - -	1	Infantile mortality—	
Hydramnios - - -	1	Recent - - -	54
Vesicular mole - - -	2	Macerated - - -	8
Abortions and Miscarriages	324		
Hæmorrhages—		Fœtal abnormalities—	
Unavoidable - - -	5	Anencephalus - - -	3
Accidental - - -	4	Spina bifida - - -	2
Post partum - - -	11	Hydrocephalus - - -	4
Prolapse of Cord - - -	6	Hypospadias - - -	1

I regret to say that four deaths from ante-partum hæmorrhage occurred in the Extern Maternity, two being from unavoidable hæmorrhage and two from accidental hæmorrhage. One of these patients—a case of unavoidable hæmorrhage—was moribund on the arrival of the Clinical Clerk. In another—a case of accidental hæmorrhage—the vagina was plugged in the usual manner; five hours later the patient got strong uterine contractions, and consequently the plugs were removed.

The hæmorrhage again started, and as the pulse was getting weaker, and the cervix was sufficiently dilated, the Clinical Clerk applied the forceps and delivered a dead foetus. The patient, however, collapsed shortly afterwards and died.

The details of the other fatal cases will be found in Table II.

The principal event of the year was the opening of the new Labour Wards. I have already described these fully in my former Report, and so need not again discuss them. With the ill-luck that attaches itself to the opening of new buildings of this kind, the first thing that happened was a violent outbreak of sepsis, from which two patients died. Where the sepsis originated I am unable to say. For a considerable time I considered that it was probably coming from the new tanks which supplied water, and with this idea I stopped using anything but sterilised water in the Labour Ward, even for the washing of hands. The infection immediately ceased, and I had the tanks carefully disinfected, and then began to use them again. Everything went well for some months, and then infection occurred again. The use of the tanks was stopped a second time and sterilised or boiled water substituted, with the disappearance of the outbreak. We then had alterations made in the tanks, which are now in duplicate, and it is an easy matter to work from one and disinfect the other, so that regular sterilisation can be carried out. I adopted a similar course in the case of the tanks supplying the Lying-in Wards, and here it is possible to disinfect one tank at a time, without interfering with the water supply from the other tank. It is, however, very questionable whether the infection really came from the tanks or not, as the same water was being used at the same time in the operating theatre, and there was no outbreak of infection in the Gynæcological Wards. In spite of this outbreak of septic infection the morbidity rate was lower than the previous year, and is represented by the figure of 5.53 per cent. as against 6.64.

TABLE II.—*Mortality.*

Name	Age	Para	Date of Delivery.	Cause of Death	Time Ill	REMARKS
D. D.	33	XV.	1911 Nov. 4	Accidental hæmorrhage	8 hours	Plugged; 1 finger os; strong pains 5 hours later; plugs removed; os quarter dilated, and hæmorrhage recommenced; pulse getting weaker; forceps; dead fetus; salines, &c.; collapse and death Bleeding for 17 hours; pulseless on arrival
M. C.	32	XIII.	Dec. 19 1912	Unavoidable hæmorrhage	17 hours	Anæmic on arrival; version; child born 3 hours later. Died next day Died 12 hours after delivery
B. O'K.	38	XII.	Jan. 24	Unavoidable hæmorrhage	48 hours	Bleeding on arrival; forceps; dead child; stimulants. Death 12 hours later
A. C.	20	I.	Feb. 6	Lobar pneumonia	20 hours	Forceps; contracted pelvis. Death from shock in 15 minutes. No hæmorrhage
A. D.	29	VI.	Feb. 9	Accidental hæmorrhage	19 hours	Developed 7th day. Death 10th day
M. B.	30	V.	April 11	Shock	4 hours	—
S. N.	28	VIII.	April 27	Lobar pneumonia	10 days	—
B. P.	23	III.	May 17	Sepsis	17 days	—
M. C.	26	VII.	Sept. 11	Broncho-pneumonia	4 days	—
M. T.	28	II.	Oct. 20	Sepsis	22 days	—



## INTERN DEPARTMENT.

TABLE III.—*Total Admissions and Deliveries.*

—	Nov.	Dec.	Jan	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Total
Total deliveries -	160	169	181	165	190	180	180	198	190	182	174	167	2,136
Patients admitted not in labour -	16	25	41	22	25	26	36	27	38	25	31	26	338
Total admissions	176	194	222	187	215	206	216	225	228	207	205	193	2,474

TABLE IV.—*Nature and Number of Cases Treated.*

Total admissions -	-	2,474	Abnormalities of cord—	
Total deliveries -	-	2,136	Velamentous insertion -	1
Primiparæ -	-	726	Prolapse -	10
Multiparæ -	-	1,410		
Presentations—			Accidental Complications	
Vertex, normal rotation	2,020		Epilepsy -	1
„ face to pubes -	17		Phthisis -	2
Face -	11		Myomata of uterus -	1
Brow -	2		Œdema of vulva (renal) -	2
Breech -	53		Cardiac Disease -	1
Transverse -	9		Spleno-medullary	
Twins -	31		Leukæmia -	1
Complications of Pregnancy—			Eclampsia -	14
Hyperemesis -	2		Crural phlegmasia -	7
Hydramnios -	3		Mastitis -	1
Abortions and miscarriages	59		Parotitis -	1
Hæmorrhages—			Operations—	
Unavoidable -	7		Pelvimetry -	16
Accidental, external -	1		Induction of labour and	
Post partum -	7		miscarriage—	
„ internal traumatic			for hæmorrhage -	1
(hæmatoma vulvæ) -	2		„ toxæmia and dead	
Lacerations of genital tract—			fœtus -	4
Perinæum -	546		Episiotomy -	4
Cervix (serious) -	2		Impacted shoulders -	2
Uterus (complete rupture)	2		Cleidotomy -	1
Contracted pelvis -	24		Suture of perinæal lacerations—	
Placental abnormalities—			Complete -	3
Adherent -	20		Incomplete -	543
Prævia -	7		Suture of cervical lacerations -	2
Battledore -	1		Forceps -	79
Succenturiate -	1		Version -	22

TABLE IV.—*Nature and Number of Cases Treated. — con.*

Cæsarean Section—		Infant statistics— <i>con.</i>	
Abdominal conserva-		Children born alive who	
tive (classical) -	4	died in hospital -	38
„ radical -	1	Total born dead or died	
Pubiotomy -	3	in hospital -	130
Craniotomy -	6		
Manual removal of placenta	20		
Excision of thrombosed		Fœtal abnormalities—	
ovarian vein -	2	Ascites -	1
Panhysterectomy -	2	Anencephalus -	6
Supra-vaginal Hysterectomy	2	Cleft palate -	1
Ovariectomy (associated with		Cleft mouth and occlusion	
Cæsarean Section)	1	right ear -	1
		Patent foramen ovale -	1
Morbidity (B. M. A. standard)—		Congenital syphilis -	2
Average -	1 in 18.06	Genu recurvatum -	1
Percentage -	5.53	Hydrocephalus -	2
		Spina bifida -	3
		Talipes -	10
Mortality—( <i>vide</i> page 22)			
Total -	11		
Average -	1 in 225		
Percentage -	0.44		
Infant statistics—		Infantile complications—	
Total births -	2,108	Cephalhæmatoma -	4
Alive -	2,016	Cerebral hæmorrhage -	1
Dead -	92	Fractured clavicle -	1
Premature -	35	Hernia -	1
Full term—		Hyphæmia -	1
Recent -	24	Gangrene of arm -	1
Macerated	33	Imperforate anus -	2
		Melæna -	5
		Ophthalmia -	7

TABLE V.—*Pelvic Presentations.*

Para	Total	Dead Children		REMARKS
Primiparæ	17	Recent	1	One was associated with pro-
		Macerated	1	lapse of cord
		Total	2	Three occurred in twin preg-
Multiparæ	36			nancies
				One associated with fractured
				clavicle
Totals	53			One occurred with eclampsia
				Seven occurred in twin preg-
				nancies
		Recent	4	One had fractured clavicle
		Macerated	5	One was premature
		Total	9	One associated with prolapse
				of cord
				One occurred with placenta
				prævia
				One associated with acci-
				dental hæmorrhage

TABLE VI.—*Twins.*

Both males	-	-	-	7
Both females	-	-	-	10
Male and female	-	-	-	14
Total	-	-	-	31

But for the septic cases that occurred during the year one would express oneself as being entirely satisfied with the new Labour Wards, and with the increased facilities which they afford. I trust that at the end of my next year I may be able to point to a very considerably reduced morbidity and mortality.

I mentioned in my last Report that I had allowed and encouraged patients to get out of bed at a much earlier period than is usually considered advisable. Provided their confinement was normal, and that there had been no perinæal laceration, they were allowed and encouraged to sit up in bed after the first twelve hours, and to get out of bed to pass water if they wished to do so. After forty-eight hours, if they continued well, they were made to leave their bed at least twice in the twenty-four hours to pass water. After seventy-two hours they were allowed to take a few steps or to sit for a few minutes on a chair or on their bed, the time they remained up being gradually increased so long as their state of health continued good. During the past year I have made no change in this plan, and I have found it most satisfactory. I cannot find the smallest evidence that it has been anything but beneficial to the patients.

I will now briefly refer to the different complications of labour met with during the year. There were seven cases of unavoidable hæmorrhage, in four of which the placenta was situated centrally over the cervix. In all cases the mother recovered. The usual routine treatment of Braxton Hicks' bipolar version was adopted. There was one case of accidental hæmorrhage. It was successfully treated by

plugging the vagina. There were twenty-four cases of contracted pelvis. In eight of these delivery was spontaneous, in three the forceps was applied, in three pubiotomy was done, in four Cæsarean section was done, and in four craniotomy. In the cases of craniotomy the child was found to be dead, and so no other method of delivery was tried. All the mothers recovered. There were ten cases of prolapse and presentation of the cord, which were treated in different ways. All the mothers recovered, and five children were born alive. There were fourteen cases of eclampsia, some of which were of a very severe type. The treatment introduced by my predecessor, Dr. Tweedy, was continued. Twelve mothers recovered, and two died, whose history I will discuss later. The forceps was applied on seventy-nine occasions. One mother died as a result of hyperemesis, from which she had been suffering for some time. Sixty-nine children were born alive, and ten dead. There were five cases of Cæsarean section. All the mothers recovered, and all the children who were alive when the operation was undertaken, were delivered alive. One child was delivered dead and putrid, as the mother had been for a considerable time in labour before admission. I refer to this case later. There were three cases of pubiotomy, in all of which the mothers recovered, and the children were delivered alive. In one of the cases the child was recognised to be slightly hydrocephalic. It was, however, alive, and I was unwilling to

**TABLE VII.—Morbidity—B. M. A. Standard.**

	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Total
<b>Total Deliveries</b>	156	160	177	160	187	176	174	192	184	179	168	164	2077
<b>Cases Morbid -</b>	9	9	6	9	20	4	7	11	11	11	7	11	115
<b>Percentage -</b>	5.76	5.62	3.38	5.62	10.6	2.27	4.02	5.72	5.92	6.14	4.04	6.70	5.53
<b>Total number of morbid cases</b>									-	<b>115</b>			
<b>Total percentage morbidity</b>									-	<b>5.53</b>			
<b>Total average morbidity</b>									-	<b>1 in 18.06</b>			

TABLE VIII. A.

*Comparison of Morbidity in Primiparæ and Multiparæ.*

PRIMIPARÆ.

—	Nov.	Dec.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Total
Total deliveries	51	54	55	54	64	52	79	78	62	69	51	57	726
Cases Morbid	3	3	4	3	9	3	4	5	7	8	3	9	61
Percentage	5.88	5.55	7.27	5.55	14.06	5.76	5.06	6.41	11.27	11.59	5.88	15.79	8.40

Total average morbidity	-	1 in 11.9
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Total percentage morbidity	-	8.4
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MULTIPARÆ.

Total deliveries	105	106	122	106	123	124	95	114	122	110	117	107	1351
Cases Morbid	6	6	3	5	11	1	3	6	4	3	4	2	54
Percentage	5.71	5.66	2.45	4.78	8.94	.80	3.15	5.26	3.27	2.72	3.41	1.86	3.99

**Total average morbidity** . 1 in 25.01

Total percentage morbidity	-	3.99
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TABLE VIII. B.—*Extra-genital Causes of Morbidity.*

Phthisis	-	-	-	.	.	.	.	2
Mastitis	-	-	-	-	-	.	-	1
Nephritis	-	-	-	-	-	.	-	2
Lobar pneumonia	-	-	-	-	-	-	-	3
Cystitis	-	-	-	-	-	.	-	1
Parotitis	-	-	-	-	-	-	-	1
Rheumatism	-	-	-	-	-	-	-	1
								Total - 11

TABLE VIII. C—Operative Cases showing Morbidity.

Nature of Operation	Number of Cases of each Operation	Number Morbid	Percentage Morbidity	Average Morbidity	Remarks
Application of forceps	79	16	20.25	1 in 4.93	One fatal case associated with hyperemesis Includes 1 fatal case from sepsis. See Table XIII.
Manual removal of placenta	20	7	35	1 „ 2.85	
Induction of labour	5	1	20	1 „ 5	
Unavoidable hæmorrhage	7	1	14.28	1 „ 7	
Pubiotomy	3	2	66.66	1 „ 1.5	—
Version	22	7	31.81	1 „ 3.14	—
Suture of lacerated perineum	546	32	5.86	1 „ 17.06	Fifteen of these associated with forceps
Cæsarean section (conservative)	4	1	25	1 „ 4	
Rupture of uterus	2	2	100	1 „ 1	One case fatal

TABLE IX. A.—*Duration of Stay in Hospital of Morbid Cases.*

Under 10 days	-	-	60 cases, including 8 deaths *
10-19 "	-	-	28 " " —
20-29 "	-	-	15 " " 2 deaths
Over 29 "	-	-	12 " " 1 death
<u>Total</u>	-	-	115 " " 11 deaths

TABLE IX. B.—*Duration of Temperature.*

Under 5 days	-	-	73 cases, including 6 deaths *
5-9 "	-	-	19 " " 3 deaths
10-19 "	-	-	12 " " —
Over 19 "	-	-	11 " " 2 deaths
<u>Total</u>	-	-	115 " " 11 deaths

TABLE IX. C.—*Highest Temperature Recorded.*

F 100°-100.9°	-	-	39 cases, including 3 deaths *
101°-101.9°	-	-	28 " " 2 "
102°-102.9°	-	-	25 " " 2 "
103°-103.9°	-	-	13 " " 1 death
104° and over	-	-	10 " " 3 deaths
<u>Total</u>	-	-	115 " " 11 deaths

\* Two of these patients died within a few hours of their admission.

TABLE IX. D.—*Treatment of Morbid Cases of Genital Origin.*

Utero-vaginal douching	-	-	-	85 patients
Administration of vaccine	-	-	-	47 "
Extirpation of thrombosed ovarian vein	-	-	-	2 "
Laparotomy and Drainage	-	-	-	2 "
Hysterectomy	-	-	-	1 patient

TABLE IX. E.—*Utero-Vaginal Douches.*

34 patients had 1 douche
33 " " 2 douches
9 " " 3 "
5 " " 4 "
3 " " 5 "
1 patient " 6 "
<u>Total</u> 85

perform craniotomy. After birth it turned out to have a spina bifida also, and died in ten minutes. In this case there was an extensive tear involving the vaginal wall and bladder, and on the forty-seventh day after the delivery a piece of necrosed bone came away through the vagina. The patient, however, was subsequently discharged, walking well. The bladder wall was stitched immediately after the pubiotomy, and there was good union. I have seen this patient since, and in spite of the fact that the piece of bone between the symphysis and the saw cut is missing, she suffers in no way from weakness of the pelvis or difficulty in walking. The other two cases of pubiotomy were entirely uneventful. I did one radical Cæsarean section and one complete hysterectomy to effect delivery in the case of a myomatous uterus. Both these patients were septic before operation. The case of myoma died on the sixth day; the other patient recovered rapidly. I refer to both these cases later. I also performed a hysterectomy during the puerperium on account of pyæmia. The patient, however, died. The use of vaccines has been continued as in the previous year, and Table X. shows the nature and number of cases in which they were used, and Table XI. the number of injections of vaccine in each patient.

I referred in my last Report to the fact that I had substituted at one period the use of argyrol for nitrate of silver in the prophylactic treatment of ophthalmia, and that I had subsequently returned to the nitrate of silver as the argyrol did not seem to give good results. The use of nitrate of silver has been continued during the past year, and though cases of ophthalmia occurred, the number is smaller than in the previous year, and the type was not so severe.

I must draw particular attention to the introduction during the year of the operation of excision of thrombosed veins in cases of pyæmia. I should do so at some length but for the fact that I have already published an article on the subject, which will subsequently be found in the



TABLE X.—*Nature of Infection and of Vaccine in Cases in which Vaccine was used.*

No. of Cases	Infection	Vaccine Used	Results	Remarks
27	<i>Streptococcus</i>	Rotunda stock 23	All recovered Recovery	In 2 cases serum was also given —
		Do. of <i>St. aureus</i> 1		
		Rotunda stock and pneumonia 1	Recovery	Septic pneumonia after rupture of uterus
		Rotunda stock and autogenous and Rotunda <i>Staph.</i> 2	2 Deaths	Abscess of lung and abscess of spleen
4	<i>St. aureus.</i>	Rotunda <i>St. aureus</i> 1	Recovery	—
		Do. and <i>Strepto.</i> 3	1 Death	Death from acute peritonitis during secondary syphilis
3	<i>Streptococcus</i> and <i>St. aureus</i>	Rotunda <i>Strepto.</i> and <i>St. aureus</i> 2	Recovery	—
		Rotunda <i>Strepto.</i> 1	„	
1	<i>St. aureus</i> and <i>B. Coli</i>	Rotunda <i>St. aureus</i> and autogenous <i>B. Coli</i>	„	Cystitis
12	Undiscovered	<i>Strepto.</i> and <i>S. aureus</i> 4	2 Deaths	One death followed on panhysterectomy; one on abscess of ovary
		<i>Strepto.</i> 6 <i>St. aureus</i> 2	Recovery 1 Death	Gangrene of limb

TABLE XI.—*Number of Injections of Vaccine in each Patient.*

No. of Injections	No. of Cases	Results	Remarks
1	5	All recovered	—
2	9	7      „	One death after panhysterectomy for myoma; one from general peritonitis during secondary syphilis
3	8	7      „	One death from gangrene
4	10	All recovered	—
5	2	„	—
6	1	„	—
8	2	„	—
9	2	„	—
10	2	2 Deaths	One from abscess of ovary; one from abscess of spleen
11	2	1 Death	Abscess of lung
12	1	Recovered	—
15	1	„	—
17	1	„	—
25	1	„	—

same Transactions of the Royal Academy of Medicine in Ireland as will this Report. Consequently, I need only say here that I operated on two cases in which I definitely recognised thrombosis, and that both patients recovered. Further, that I operated on a third case because I thought thrombosis was likely to be present, although I could not find any evidence of it by bi-manual examination. I found no further evidence of thrombosis after opening the abdomen, and I did a hysterectomy, as I thought the infection must certainly be coming from the uterus. In this

case, however, the patient was in no way benefited, and died later of pyæmia.

There were several cases of special interest during the year, to which I should now like briefly to refer.

CASE I.—*Large fibro-myoma complicating pregnancy.*—M. E., aged forty-five, first pregnancy, was sent to us from the country on the 6th of March. On admission her temperature was  $F. 102^{\circ}$ , her pulse 140. She had evidently been in labour for some time, and the child was dead. On examination, a large tumour was found which completely occupied the lower half of the abdomen, and above which lay the pregnant uterus. The cervix could not be reached through the vagina. It was obviously impossible to make any attempt at delivering through the vagina, and consequently the abdomen was opened, and the uterus was brought out on to the abdominal wall and removed. It consisted of a very large myoma growing from the lower part of the uterus, whose cavity lay wholly above the tumour. The patient's condition improved for a couple of days—her pulse and temperature both dropping. The pulse, however, rose on the third day to 135, and persisted about that level until her death from sepsis four days later. The woman was obviously septic at the time of admission, and she had been subjected to a considerable number of examinations.

CASE II.—*Ante-partum Eclampsia with fatal results.*—E. P., aged thirty-two, was admitted to the Hospital on the 22nd of July. She was in her second pregnancy, and about six and a half months pregnant. Her previous pregnancy had ended as an abortion. On admission it was stated that she had had one fit, and another fit occurred immediately afterwards. The usual treatment was adopted, the stomach and rectum were washed out with sodium bicarbonate solution, and morphine was given. The urine was examined and found to become almost solid on boiling. The convulsions continued at hourly intervals, and after the fourth the stomach and rectum were again washed out. A grain of morphine in all was given in quarter-grain doses. Then, as the respiration had slowed to nine in the minute, the morphine was stopped. Later in the day four more convulsions occurred, all of which were accompanied by marked cyanosis, and in each the throat had to be well cleared in order to permit

respiration. Sub-mammary infusion and poultices to the loins were tried. Although a considerable dose of *mist. sennæ co.* was left in the rectum and in the stomach, only one slight action of the bowels could be produced by enema. The patient remained unconscious all day, and in the evening she died almost immediately after a convulsion. Artificial respiration, administration of oxygen, and clearing of the throat were tried without avail.

CASE III.—*Puerperal Eclampsia, with fatal results.*—A. R., aged thirty-three, was admitted to the Hospital on the 8th of July. She was in her second pregnancy, and at full term. She was delivered normally twelve hours later. Nine hours after confinement she had a fit, lasting eight minutes, and one hour later another fit occurred. Between these fits she was given a dose of *mist. sennæ co.*, which she vomited. From the second convulsion until death the patient was unconscious. After the second convulsion the stomach and rectum were washed out, and a purgative was left in both. At that time twenty-six ounces of urine were withdrawn from the bladder. Morphine was given in the usual manner—a grain in all being given. Six convulsions occurred during the night. The catheter was passed at regular intervals, and a fair quantity of urine—twenty-six ounces in all—was drawn off. The fits ceased the next morning, fourteen hours after the occurrence of the first. The patient, however, did not regain consciousness. Her pulse was very rapid, and digitalin in one-hundredth of a grain doses was given every three hours. During the day fomentations were applied to the kidneys, and the patient was placed in a hot pack, as only two ounces of urine were passed in all. Two pints of bicarbonate of sodium solution were injected under the breasts. The urine was quite black in colour, and contained granular casts in large quantities, a few epithelial casts, red blood corpuscles, and numerous bacteria. In the afternoon she was seen by Sir William Smyly and Dr. Purefoy, who happened to be in the Hospital, and on their advice, as a last chance, venesection was performed, and half a pint of blood was drawn off. The patient's breathing was very stertorous and laboured, her temperature was  $F. 104^{\circ}$ , and she gradually sank, and died about fifty-three hours after the first attack, never having regained consciousness.

I think these two cases show the futility of considering that any treatment of eclampsia will be uniformly successful. Here was a patient who came under treatment at a suitable time—namely, before any attacks had occurred, and while she was still passing a sufficient quantity of urine—and yet, from the second convulsion on, her condition was practically hopeless. At the *post mortem* examination the liver showed fatty degeneration with hæmorrhages on its surface. The uterus and appendages were normal, the spleen was large and hard and dark in colour, and the kidneys were granular.

CASE IV.—*Pregnancy with Malignant Ovarian Tumour and Cæsarean Section*.—K. D., aged twenty-four, was admitted to the Hospital on the 6th of May. She was pregnant for the first time and at full term. The patient stated that she had been in bed for the past five months, and that a doctor had been attending her for two months, during which time she complained of pain in the left side. The patient had also been in the Gynæcological Wards of the Rotunda in January, 1911, when I performed a right ovariectomy for her, and resected the left ovary. The ovariectomy was done for an ovarian cyst, and this cyst was subsequently reported by Dr. Rowlette to be papillomatous. From the subsequent history of the case it is obvious to me that I should have re-opened the abdomen and removed the remaining ovary, more particularly as there was a small cyst in it at the time of operation, which I had then resected. However, I did not do so. On examination of the patient in hospital we found the abdomen greatly distended, with large veins running over the surface. The fœtus could be felt in the uterus on the right side, while the left side was occupied by a semi-solid, semi-cystic tumour. I made a diagnosis of a malignant ovarian tumour associated with pregnancy, and as the tumour obviously obstructed the passage of the child into the pelvis, I decided at once to do a Cæsarean section, and at the same time, if possible, to remove the tumour. Accordingly, on the 9th of May, I opened the abdomen in the middle line. There was a small amount of free fluid in the peritoneal cavity. The tumour was very fixed, and, in order to get access to it, I made a lateral incision across the

rectus muscle on the left side at the level of the umbilicus. The ovarian tumour was the size of a full term uterus, and contained a jelly-like substance. The base of the tumour was clamped, and the tumour was removed. I then quickly opened the uterus at the middle line, having got it into a more favourable position in the abdomen, and removed the fœtus. There was some hæmorrhage from adhesions which had formed between the tumour and the intestine, but this was easily controlled. The patient made an entirely satisfactory recovery, and I understand that at the present time she is still doing well. The second tumour was also papillomatous in character.

CASE V.—*Contracted Pelvis, dead and decomposing Fœtus, Cæsarean Section followed by Hysterectomy.*—R. H., aged twenty-three, was admitted to the Hospital on the 9th of June. She was in her first pregnancy, and at full term. On admission the patient's temperature was F. 100.2°, and her pulse 140. She came from the North Dublin Union, and she gave a history of having been in labour for seven hours. This history was, however, probably wrong, and it was more likely that the patient had been in labour for several days. However this may be, the membranes had ruptured five days before admission, and the patient stated that during this period she had not felt fœtal movements. On examination she was found to be a rachitic dwarf, the uterus was very prominent, the presenting part not fixed, and the uterine muscles were tightly contracted down on the fœtus. On vaginal examination, the os was found high up, and admitted one finger, the membranes were ruptured, and the presenting part could not be distinctly felt. The true conjugate was so narrow that there was no necessity of measuring it, as it was obviously impossible to effect delivery through it. It was decided to perform Cæsarean section, and the only question was whether this should be carried out in the classical manner or whether the so-called "extra-peritoneal" operation should be performed. I decided in favour of the former. Accordingly, the abdomen was opened in the middle line, and the uterus was brought right outside and isolated by wipes and sterilised towels from the rest of the abdomen. An opening was then made near the fundus, the uterus hang-

ing well over to one side, and the child was removed. The latter was dead and decomposing. The inside of the uterus was quite green. In consequence of the decomposition, hysterectomy was carried out. The patient stood the operation well, and made an entirely satisfactory convalescence. It is customary to consider the green staining of the inside of the uterus in this type of case as the result of decomposition. I am bound to say that I question this, and that I think the green staining is more likely to be the result of meconium than of decomposition. I am not, however, able to bring forward any positive evidence in support of this view.

(*To be continued.*)

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ART. II.—*Pole Ligation for Hyperthyroidism.*<sup>a</sup> By WILLIAM PEARSON, F.R.C.S.I.; Assistant Surgeon, Adelaide Hospital, Dublin.

THERE is probably no disease which has been credited with a greater number of causes and treatments than the clinical syndrome which is variously termed Graves's disease, Basedow's disease, or more generally exophthalmic goître.

In 1886 Moebius propounded the theory of thyroid activity as the cause of the symptoms, and it is now generally agreed that hyperactivity of the gland and excessive absorption of its secretion are constant accompaniments of the condition. The essential change in the gland is one of parenchymatous hypertrophy. This change has been described by many observers, but the investigations of Wilson and Plummer, of the Mayo Clinic, have clearly demonstrated the constant and close relationship between the clinical picture as represented by the patient and the microscopic findings in the thyroid gland. From a study of the pathology of the glands from 294 cases of exophthalmic goître, Dr. L. B. Wilson (1) was able to conjecture accurately the stage and severity of the disease, without any previous knowledge of the

<sup>a</sup> Read in the Section of Surgery in the Royal Academy of Medicine in Ireland on Friday, May 9, 1913.

clinical facts in over 80 per cent. of the cases. Working on the clinical side, Dr. H. S. Plummer (2) has been able to foretell the degree of glandular hyperplasia present in 95 per cent. of cases, from a study of the clinical findings only, in over 1,000 exophthalmic cases. In view of these results it is desirable to abandon the older nomenclature and to substitute one of the newer terms—*thyrotoxicosis* (Kocher) or *hyperthyroidism* (C. H. Mayo).

Unfortunately, in spite of many theories, we have not yet determined what is the stimulus which excites this glandular hyperplasia, and consequently at the present time rational treatment is directed towards diminishing the hypersecretion and the excessive absorption from the gland. In the vast majority of cases this is effected with greatest certainty by surgical measures. Amongst the more recent methods employed for this purpose are those which reduce its blood-supply by ligation of vessels—usually the superior thyroid vessels on one or both sides. However, as it is probable that the secretion of the thyroid is largely absorbed through the lymphatics it seems wiser to produce lymphatic obstruction at the same time.

To render the operation efficient, an accurate knowledge of the vascular and lymphatic circulations of the gland is essential :—

The thyroid gland lies in the visceral compartment of the neck, between the pretracheal and prevertebral layers of the deep cervical fascia, and possesses a very rich blood-supply. Each lateral lobe is supplied by two arteries, while an occasional fifth vessel (*thyroidea ima*) runs upwards from the innominate in front of the trachea to reach the isthmus. The *superior thyroid artery* arises from the anterior aspect of the external carotid at the level of the thyro-hyoid membrane. It runs downwards and forwards under cover of the omohyoid, sterno-hyoid, and sterno-thyroid muscles to reach the upper pole of the lateral lobe, above which it divides into three main branches—posterior, external, and internal; occasionally an anterior branch is also present. The *inferior thyroid*



*artery* springs from the thyroid axis of the first part of the subclavian vessel. It is deeply situated in the neck, running upwards and then inwards behind the carotid sheath to reach the deep aspect of the basal part of the lateral lobe, where it is closely related to the recurrent laryngeal nerve. It divides into two main branches—posterior and basal. The veins on each side form three groups:—The *superior thyroid vein* leaves the gland at its upper pole in close company with the corresponding artery; it crosses the common carotid artery and terminates in the internal jugular vein. The *inferior thyroid vein* descends in front of the trachea, and frequently unites with its fellow of the opposite side to form a common trunk which opens into the left innominate vein. The *middle thyroid vein* (better termed the *lateral group* of veins, as there are frequently two or three separate trunks) leaves the lateral aspect of each lobe, crosses the common carotid artery and joins the internal jugular vein. The superior veins alone are closely associated with the arteries.

The main branches of the blood-vessels ramify on the surface of the gland in the true capsule, and anastomose freely with one another. This anastomosis is freer between the various vessels of one side than between the vessels of opposite sides, though there is usually a well marked cross-branch of communication present on the upper border of the isthmus.

*The Lymphatics* (3) form a network within the actual thickness of the capsule. From this network run ascending and descending trunks. The ascending trunks form median and lateral groups. The median trunks pass from the upper border of the isthmus to reach the prelaryngeal gland; the lateral accompany the superior thyroid vessels and terminate in the glands placed at the bifurcation of the carotid artery. The descending trunks also form median and lateral groups: the median reach the pre-tracheal glands; the lateral pass to the glands of the recurrent chain.

Ligation may be performed on the vessels or on the gland itself; on one or on both sides. The superior pole is almost invariably chosen, as being most readily exposed. Ligation of vessels was first performed by Wolfler, and is the method advocated by Mayo (4), who, in 1909, recorded his experiences in 225 cases. A few points in technique are important. *Firstly*, the ligature must be applied below the point where the vessels divide into their main branches, close to the upper pole of the gland; if it is applied above this a reversal of the circulation may occur, owing to the free anastomosis—this was observed by Mayo in one of his cases, which necessitated a second operation. *Secondly*, the veins should be included to obstruct venous return as well as arterial flow. *Thirdly*, the vessels should not be isolated from their fascial investment, but the ligature should be passed round the latter so as to include lymphatics and nerve filaments. *Fourthly*, the ligature should be non-absorbable, either of silk, linen thread, or even fine silver wire, to ensure permanent occlusion.

The technique of “pole ligation,” in which the ligatures are placed round the upper horns of the gland and not directly on the vessels, has been well described by Jacobson (5). From anatomical considerations it will be apparent that the capsule of the thyroid must be included in the ligature if the blood and lymph flow is to be effectively checked.

I regret that in bringing this subject before you I have only one case to record so far; but no previous communication on it has been made before the Section, and, so far as I know, this is the first case treated by this method in Dublin. These reasons must be my excuse.

CASE.—The patient, M. J. J., female, unmarried, aged thirty-three years, was admitted to the Adelaide Hospital on May 11th, 1912, complaining of persistent vomiting for three weeks past, unaffected by diet or drugs.

Up to this she had latterly been in good health, but four years previously a laparotomy had been performed for

“stomach trouble.” The nature of this operation, however could not be determined.

On examination, the patient was extremely nervous, thin, and wasted; her face was flushed, and she looked much older than her stated age. There was visible pulsation and well-marked thrill in the arteries of the neck and abdominal aorta; the pulse, as she lay in bed was 150 to the minute, regular, small, and compressible; the heart sounds were lacking in tone, but there was no evident dilatation. The blood-pressure was 100 m.m. in the right brachial artery. She suffered greatly from palpitations, and at times from breathlessness. She sweated freely; but her chief trouble was the persistent vomiting, which was so severe on admission that even sips of water were rejected. Several attacks of diarrhoea had also occurred. There were well-marked muscular tremor and weakness. There was no clinical enlargement of the thyroid. With the exception of Moebius' sign and a very doubtful exophthalmos, all the classical eye symptoms were present. The urine was normal. The temperature varied between 98.4° and 100°.

This was clearly a case of acute severe hyperthyroidism, in which the gastric symptoms predominated to such an extent that she had been sent to hospital as a “gastric case”—a diagnosis readily acceptable in view of her previous laparotomy.

It is worth noting that the two signs—exophthalmos and enlargement of the thyroid—which have given to the disease its more common name—exophthalmic goitre—were both absent. These atypical cases, often termed *pseudo* or *fruste*, have been very frequently recorded, and emphasise the desirability of discarding this nomenclature.

Owing to the patient's serious condition immediate surgical intervention was undesirable, and accordingly for two weeks preparatory measures were adopted, as advocated by Mayo, to check the vomiting and to improve the condition of the heart. These consisted in absolute rest, hypodermic injections of digitaline and atropine, and the application of icebags over the heart. For the first few days rectal injections of saline and nutrient enemata were given; later on

fluids in small quantities were given by the mouth until the patient was able to take milk and light diet freely.

On the 28th of May I performed bilateral pole-ligation. At this time the pulse varied from 100 to 120, the temperature had settled to normal, and vomiting and diarrhœa had ceased. The patient's weight before operation was 6st. 4lbs.

The technique I adopted was a combination of Mayo's ligation of the superior thyroid vessels and "pole ligation" as described by Jacobson:—A transverse collar incision of two and a half inches was made over the thyroid cartilage, dividing the skin, platysma, and deep fascia in the line of one of the natural skin folds. At each end of the incision, by retraction of the tissues, the angle between the sternomastoid and anterior belly of the omohyoid muscles was easily defined, and by division of the pretracheal layer of fascia at these points the upper poles of the thyroid with their vascular pedicles were exposed. A double ligature of silk was passed round them on each side, care being taken to include the capsule of the gland and the fascial tissue surrounding the vessels in which the lateral superior lymph channels run. The upper ligature was tied on the vessels, close down to the superior pole, below their division into their main branches; the lower was placed round the gland substance itself about half an inch lower down. This method appeared to offer the best prospect of permanently checking the vascular and lymphatic flow, while if partial thyroidectomy became necessary at a later date the upper pole could be freed without the application of a fresh ligature. The tissues were not divided between the ligatures, but there would seem to be no objection to this being done at the same time. The fascia and platysma were closed with fine catgut, and the skin with a "shotged" subcuticular suture as described by me elsewhere (6). At operation the thyroid was considerably larger than clinical observation had suggested.

Within a few days the patient expressed herself as feeling much better, and steady improvement was noted in all her symptoms. There was no recurrence of vomiting or diarrhœa; the nervousness, palpitations, and muscular tremor were greatly diminished; the eye symptoms subsided, and her temperature remained normal, save that about once a week the evening record was 99°—during the

last fortnight she remained in hospital it remained sub-normal. The pulse-rate did not improve so rapidly, but it gradually fell to an average of 90 per minute. The gain in weight was considerable—in the first week after operation there was an increase of 3lbs., in the second week 5lbs., in the third week 3½lbs., and when she left hospital on the 7th of August—two months and ten days after operation—she weighed 7st 7lbs., an increase of 17lbs.

After operation no special treatment was adopted, as I was anxious to test the effects of the operation *per se*, so that I think we must credit it for having produced such a marked and rapid improvement in this case.

Recent communication with the patient has elicited the reply that she feels so well that she does not wish to return for further treatment.

It is, of course, impossible to draw any general conclusions from one case, but I would direct your attention to three questions of practical importance:—(1) In what cases should ligation be performed? (2) What are the results of this treatment? (3) What is the operative risk?

Lastly, I will allude to one or two points in technique and after-treatment.

(1) The cases which are suited to treatment by ligation may be divided into two groups, after Mayo (4):—

- (a) Mild and early cases which fail to respond to medical treatment, yet which do not warrant the more serious surgical intervention of partial thyroidectomy.
- (b) Acute severe cases, especially in the presence of emaciation and cardiac dilatation. Here ligation finds its greatest field of usefulness, being a much safer surgical procedure than extirpation while toxæmia is severe.

Perhaps we may include others if we say that all cases in which clinical enlargement of the thyroid is slight or absent should be submitted to ligation, rather than to partial thyroidectomy in the first instance. It is likewise apparent that cases with even mild thyrotoxic symptoms

are best treated by ablation if there is marked enlargement of the gland.

(2) The results of ligation are most encouraging. In many of the milder cases a cure is effected in a few weeks. In the severe cases marked improvement usually occurs, so that more radical operative measures may be attempted subsequently with far less surgical risk. Indeed, in these cases it becomes in many instances a life-saving procedure.

In 1909 Mayo (4) was able to collect records of 138 cases in which ligation had been performed sufficiently long to make their report of value. Excluding cases in which thyroidectomy had also been performed, and a few doubtful cases, the results were :—

Slight improvement	-	-	9 cases.
Great improvement	-	-	44 „
Very marked improvement	-	-	11 „
Absolutely well	-	-	4 „

The average gain in weight in these cases was 21lbs. in four months.

Since then he has been doing more and more ligations each year, the great majority in severe cases as a preliminary to thyroidectomy, ligating now usually only on one side, and for the purpose of this paper I wrote to him to inquire particularly as to the *permanency* of the results. In his reply he says :—“ Most of the ligated cases will relapse within from one to three years, although their condition will not be so bad as before the ligation.”

(3) In regard to risk, I think we may safely say that the operation *per se* should have a mortality of nil. It is the desperate condition of the patient which determines a fatal issue, and even the worst cases will usually be treated successfully if we employ suitable pre-operative treatment.

“ St. Mary's Hospital Reports ” for the past three years show 134 cases of double ligation, with 4 deaths, a mortality of 3 per cent. ; and 531 cases of single ligation, with 9 deaths, a mortality of 1.7 per cent. .

The question of anæsthesia in these cases is one of importance. Personally, I prefer general to local anæsthesia in goitre operations: My chief objection to the latter is the free capillary hæmorrhage which is apt to follow when the vaso-constrictor effects have passed off. The few cases in which I have employed it required a change of dressings the same evening, whereas cases operated on under general anæsthesia are left undisturbed till the following day. The best general anæsthetic is undoubtedly "open ether," the popularity of which is every day increasing. In goitre operations it is preceded by an intramuscular injection of omnopon, gr.  $\frac{1}{3}$ — $\frac{2}{3}$ , scopalamine, gr.  $\frac{1}{150}$ , into the left deltoid one hour previous to operation. With these is combined atropine, gr.  $\frac{1}{100}$ , as recommended by Mayo, which keeps the air-passages clear of mucus, and so preserves a free air-way for the patient. In the very worst cases only will it be necessary to resort to local anæsthesia.

Gentle manipulation I regard as a matter of prime importance in operating on thyrotoxic cases. This will be gained by an accurate knowledge of the connections and fascial relations of the gland; by good exposure through an adequate incision; by careful methodical dissection; and by avoidance of all unnecessary manipulation and massaging of the gland itself. I believe that the severity of the post-operative reaction in goitre cases is largely determined by the amount of handling to which the gland is subjected, and which determines a copious and rapid liberation of its secretion into the system. To an organism already overburdened, a further addition of the toxin is naturally a serious matter.

In regard to immediate after-treatment, the most important point is the administration of large quantities of fluid: during the first twenty-four hours rectal salines will be most efficient, and one pint should be administered every three or four hours.

My best thanks are due to Dr. C. H. Mayo for supplying me with information as to his latest observations on

this subject ; to my senior colleague, Mr. L. G. Gunn, for assistance at the operation ; and to Professor A. F. Dixon for material from the Anatomical Department in Trinity College for verifying the anatomical data.

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ART. III.—*Foot and Mouth Disease in Man: Aphthous Fever.*<sup>a</sup> By C. M. O'BRIEN, M.D., L.R.C.P.I.; Physician to, and Lecturer in Dermatology at, City Hospital for Diseases of the Skin and Cancer, Dublin; Physician in sole charge of Finsen Light Department; Honorary Member of Dermatological Society, France; Fellow of the Medical Society, London.

AMIDST the grey routine of my daily grind, it has ever been my wont to bring under notice of the profession things within my purview which appeared to me of interest to it.

I am happy in the belief that my humble efforts in this respect have been fully justified by reason of the full, free, and unfettered discussion which they invoked on each occasion. Besides the novelty of recording a cutaneous affection which falls to the lot of few to meet with, and which fell to my lot through the friendly interference of the fickle Fates, there is to me in the present instance an additional incentive—tantamount to public duty—to record this case owing to the fact that the subject of my present paper has already formed the basis of a discussion in Parliament a few weeks since. In the course of that

<sup>a</sup> Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, January 31, 1913.



discussion certain statements were made and widely circulated through the medium of the public Press, which, had they been left unanswered and uncorrected by me at the time, would have undoubtedly produced upon the public mind an impression not only prejudicial to the progress of scientific Medicine generally, but would probably have robbed medical certification in this country of half its worth and all its sanctity.

The epidemic of foot and mouth disease in cattle which swept this land from shore to shore in 1912, and which created such financial havoc and black despair amongst a large portion of our population, enables me thus to relate my first and only experience of this malady as it affects mankind. Although the statement at first sight may seem somewhat paradoxical, it is nevertheless true to say that perhaps the most interesting feature associated with foot and mouth disease in man is the paucity of its bacteriological literature, and in search of this literature the point above all others which impressed me most is that in an age like the present, of modernism and medical research, how little, after all, we are helped towards a positive diagnosis in this as in many other cutaneous affections, by other than those senses which are the heritage common to all, and which served Æsculapius in such very good need long before the death of Grecian priest-craft, and even the dawn of medical history.

It would appear that the first reliable record of foot and mouth disease in man was made in 1695 by Valentin, of Hesse. In 1834 three Continental veterinary surgeons—named Hertwig, Mann, and Villain—while investigating the disease in cattle, wished to know if it were communicable to human beings, and, as an experiment, voluntarily drank a quart each of the milk from a cow suffering from the infection. On the second day Hertwig suffered from fever, headache, and itching of the hands and fingers. Five days later vesicles appeared on the fingers, hands, tongue, cheek, and lips. Mann and Villain developed vesicles on the buccal mucosa.

In 1896, during an outbreak of foot and mouth disease in Berlin, several instances of its spread to man were reported and unhesitatingly confirmed by Virchow after an investigation, which, for minuteness and completeness of detail, could not fail to influence the most sceptical.

A child, fed on milk of diseased cows, had chill and fever with gastric disturbances, and later an eruption of vesicles on lips, tongue, and the clefts between fingers and toes. A shepherd infected himself by holding in his mouth the knife with which he had pared the diseased feet of sheep.

In 1883, Sir Charles Cameron, C.B., M.D., Chief Medical Officer of Health for Dublin, during the epidemic in this country of foot and mouth disease in cattle, had under his care a man who contracted the disease through direct inoculation. Rash on both feet and hands, which developed into vesicles later. The throat, lips, and mucous membranes had also distinct vesicles. About the same time Professor Sir Clifford Allbutt saw the buccal eruption in three children during an epidemic of foot and mouth disease in Yorkshire. Cases of infection through butter made from infected milk are on record, of which the following is a good illustration.

On the 18th of November, 1890, a veterinary student in Berlin had been sent by his brother-in-law a packet of fresh butter, made from the milk of cows suffering from foot and mouth disease. On the following day he ate some of the butter for the first time. During the next night he was feverish, and on the morning of the 20th he found his lower lip red, swollen, and covered with vesicles which were itchy. Later the vesicles spread to the buccal mucosa. Similarly, Schneider gives cases caused by infected cheese, and Friedberger cases from virulent buttermilk.

Instances of infection by inoculation have been observed, of which the following is perhaps the most interesting and instructive. As it presents many points in its clinical history which resemble the subject of my paper,

I am inclined to give full details as they appear in *The Veterinarian*, 1831. The patient was a farmer who had injured one of his fingers in drenching a cow suffering from foot and mouth disease. The wound took on an unhealthy action, and after some days he was taken ill with a cold, shivering fit. This occurred in the evening, and by the following morning the cold fit had been succeeded by fever. Twenty-four hours later vesicles formed on the gums and tongue.

Instances of transmission of the virus of foot and mouth disease from the lower animals to man, both by inoculation and otherwise, could be further multiplied if time allowed or necessity demanded, but I feel convinced there are few, if any, serious thinkers amongst us to-day who entertain much doubt upon this particular point. For myself, I candidly own that if at any time in my career I entertained the least doubt as to the transmission of foot and mouth disease from the lower animals to man that doubt is dissipated for all time by the undermentioned case, notes of which, *tout ensemble*, constitute a clinical picture not easily counterfeited.

CASE.—G. J. B. consulted me in my study on August 12th, 1912. In the cause of science he now permits me to publish the following, viz.:—Veterinary Inspector, Irish Agricultural Department, M.R.C.V.S., aged thirty-five; married. Family history unimportant. Personal history.—Of temperate habits; had scarlet fever at the age of ten, otherwise he always enjoyed very good health. On July 9th, 1912, while in discharge of his duty as veterinary inspector to the Irish Agricultural Department, he got bitten by a sheep on index finger of left hand while examining the beast for suspected foot and mouth disease on an infected farm at Swords, County Dublin. Having applied an antiseptic dressing to the wounded finger, and used a thin rubber finger-stall as an additional protection, he continued his daily examinations without intermission, not anticipating any serious results. About three weeks later the wound appeared to form an abscess, to which the patient applied an abscess knife, with every antiseptic precaution.

There was no pus found, the local pain and tenderness continued, and the wound did not heal.

As his colleagues of the Department were all fully occupied coping with the outbreak, and as his services as a result were badly needed, he declined to lie up. On the morning of the 11th of August redness and swelling appeared on both hands and fingers, accompanied by great itching of the parts, with a few small raised white swellings, like little lumps under the skin, especially around the nails. By night time, slight itching of the upper part of both feet, accompanied by a sensation of pin-pricks in the soles, which became more prominent when walking. He also complained of feeling out of sorts for a day or two previously. Bowels confined, slight headache, with loss of appetite, and some colicky pains. Having received the foregoing particulars, I proceeded to examine the patient, a thick, well set up man, about 5 feet 8 inches in height, of exceptionally good muscular development, rather younger in appearance than stated age. The fingers and dorsal aspect of both hands were markedly swollen, and covered over with a dull, reddish, raised rash, which stopped short somewhat abruptly an inch above the wrists. Examining closely, immature vesicles were observed here and there over surface of rash, more especially in the clefts between the fingers and immediately above and around the finger nails. A sensation of great itching over this region was complained of. On removing the dressings of injured finger the edge of wound gaped, and, although no pus exuded on pressure, nevertheless it exhibited few signs of healing. There was no perceptible involvement of the lymphatic glands. Examination of throat exhibited congestion of fauces, with some vesicles. Vesicles were also observable on the inside of lips, gums, and side of tongue. The latter appeared swollen and tender. Mastication, deglutition, and talking were painful. The saliva was increased, and the voice less distinct than normal. The temperature registered in the mouth was just 100°, and never exceeded this during the entire illness. The kidney secretion was high-coloured, acid reaction, specific gravity 1020; sugar and albumen absent. The heart, lungs, and other organs appeared quite normal. The patient complained of increasing itchiness over dorsal aspect of both feet, and, excepting a slight red-

ness above and inside both knees, no rash was perceptible on lower extremities at this stage. But a sensation of sharp pin-pricks over soles of both feet, rendering locomotion troublesome. Knee-jerks normal. Ankle clonus present

*Condition of patient on August 13th, 9 30 a.m.*—Excepting the slight rash on inside of thighs, which has now entirely disappeared, all the previous symptoms are more pronounced. Vesicles, fully formed, about the size of peas, on lips, tongue, and fauces. Saliva trickles from the mouth. Swallowing and speaking more painful, while, in addition, the dorsal aspect of both feet presents a rash precisely similar to that previously described on hands; the rash extending to ankles, stopping short at this point on both feet. Vesicles in process of formation are also observable between the clefts of toes and around the toe nails. Temperature 99.5°.

The same evening the patient was seen by Sir Charles Cameron, C.B., M.D., Principal Public Health Officer for Dublin, in consultation with me. Vesicles were present on throat, side of tongue, fauces, and inside of lips.

The contents of vesicles, which in the early stage were clear, had now become somewhat turbid. In some instances the vesicles on mucous membrane had coalesced and ruptured, leaving small, shallow ulcers, with dark red base. Sir Charles Cameron, after a careful examination of the patient, said the case presented symptoms precisely similar to a previous case of foot and mouth disease in man which he met with in the epidemic of 1883. Saliva continued to trickle from the mouth, and the painful swallowing permitted now of liquid nourishment only. The progress of the case continued without much alteration, the temperature remaining between 99° and 100°.

On August 15th the rash on the hands began to fade, the vesicles ruptured, and further vesication ceased; but the soreness of throat and free flow of saliva continued for some days. On August 17th Sir Thomas Myles, F.R.C.S.I., saw the patient in consultation with Sir Charles Cameron, M.D., and myself. This was the seventh day of the illness. Fresh vesicles had by this time ceased to appear, and only the remains of previous ones were in evidence on throat, lips, and on both feet. These, with the copious saliva and

difficult deglutition, were the only data to guide us now. Sir Thomas Myles examined the patient's feet, throat, and hands very minutely. He also examined the wounded finger. He said that as a result of his examination, from all he had seen, and from the history given by the patient, he believed the case to be one of foot and mouth disease. But seeing it on the seventh day after the acute attack, it was impossible for him at that stage of the illness to positively confirm the diagnosis.

Thus briefly stated is the clinical history of my case, and although I claim no triumph over any one of the many mysteries which surround its bacteriology, nevertheless the picture painted is true to life, which fact may condone any lack of originality in technique, or seeming disregard for the due proportion of light and shade so essential to the masterpiece.

It is agreed that neither sex nor age, race nor class, affords exemption from foot and mouth disease. It is also agreed, thanks to the research and logical deductions of Löffler, that the bacillus, virus, or whatever else it may be termed, which causes foot and mouth disease, is sufficiently small to allow of its passage through the finest pored porcelain filter, and so elude the most powerful microscope. Like the biblical grain of mustard seed, this virus, or bacillus, gives rise to results in man which have taught me the lesson derived from personal observation and experience, that apparently slight cases, if neglected, may lead to grave results. Whether these results depend on tissue changes effected by the direct action of the bacillus or its toxins are questions still in the womb of time, and at present far more readily asked than answered.

In conclusion I take this opportunity of expressing my indebtedness to Sir Charles Cameron. From all the literature within my reach (both local and foreign) bearing on this subject I think I am correct in saying that Sir Charles has the unique distinction of being not only the only medical man in the United Kingdom, but the only

medical man alive to-day who can speak from practical personal experience of two separate cases of foot and mouth disease in man due to direct inoculation from the lower animal—one so far back as thirty years ago, during the epidemic of 1883, the other which is the subject of the present paper.

I am also indebted to Sir Thomas Myles, M.D., F.R.C.S.I., Surgeon to His Majesty the King. Surgeon to the Richmond, Whitworth, and Hardwicke Hospitals, who also saw the case in consultation with me. The mere mention of this fact at once establishes the belief that any ambiguity in diagnosis which might arise from a surgical standpoint at once disappears.

I am also to thank Mr. T. T. O'Farrell, F.R.C.S.I., Bacteriologist to the City Skin Hospital and to St. Vincent's Hospital, for his examination of the epithelial *débris* and contents of vesicles with negative results.

My thanks are in an especial manner due to my former patient, Mr. George J. Bell, M.R.C.V.S., who, in the cause of veterinary and medical science, permits me to bring this case before the Royal Academy of Medicine in Ireland, which is, as far as I know, the first published case of its kind in Great Britain.

#### LITERATURE.

- Virchow's Archiv. Path. Anatomie.
- Law's Veterinary Medicine.
- Hewlett's Manual of Bacteriology.
- Allbutt and Rolleston's System of Medicine.
- Berliner klin. Wochenschrift.
- Veterinarian, 1831.
- Osler's Medicine.
- Taylor's Medicine.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Food and Feeding in Health and Disease: A Manual of Practical Dietetics.* By CHALMERS WATSON, M.D., F.R.C.P.E.; Assistant Physician, Royal Infirmary, Edinburgh; Editor of the "Encyclopædia Medica." Second Edition, revised. Edinburgh and London: Oliver & Boyd. 1913. Demy 8vo. Pp. xvi + 638.

WHEN a work of this kind attains its second edition within three years it may be concluded that a want has been supplied and that the book is a good one. To these conclusions we had already come after reading the first edition. This will be proved by a reference to a notice of the work which was published in the number of this journal for April, 1911 (Vol. 131, Third Series, No. 472).

In his first chapter—on the nutritive value of foods—the author points out that a knowledge of the nutritive value of food may be gained in the following ways:—  
1. By a study of its chemical composition; 2. by ascertaining its heat value, expressed in calories; 3. by reference to its physiological properties—the ease with which it is digested and absorbed. Dr. Watson very properly points out that the digestibility of food, and the ease with which it can be absorbed in the intestine are the most important facts to be considered in connection with any food. Accordingly, he dwells less on the chemical composition of the heat values of food and more on its influence on the digestive and bacterial processes in the digestive tract.

This plan, he observes, has been deliberately adopted as being in strict accordance with the general trend of recent advances in our knowledge of the physiology of digestion, and also more in harmony with the teaching of clinical experience.



The practical application of this principle is fully illustrated in Chapter XI., on diet at different periods of life; in Chapter XII., on under-feeding and over-feeding; and especially in Chapter XVI., on dietary in fevers and acute infective diseases. In the last-named chapter, the section on typhoid or enteric fever is particularly valuable and worthy of praise. The short section on "Pneumonia or Pneumonic Fever" (page 288) includes an excellent statement as to the administration of alcoholic stimulants. Dr. Watson writes:—"In the general run of cases, alcohol in any form is not called for. In elderly people and in alcoholic subjects the use of stimulants is more frequently indicated. The early routine use of alcohol in these cases cannot be too strongly deprecated. When the heart's action becomes weak, irregular, and intermittent, and the general condition of the patient indicates increasing weakness, a stimulant is called for. It may be given in the form of whisky, brandy, or champagne. An average dose would be half an ounce of whisky in twice the amount of water every four hours. In exceptional cases, when distinct benefit is apparently resulting from the stimulant, a considerably larger amount of whisky or brandy may be administered."

In recent years we have become very chary of ordering alcoholic stimulants in any, and especially in fever, cases. Our experience is that hypodermic injections of strychnine and digitaline, and strophanthus, caffeine, or camphor given internally will tide a patient over the dangers of heart-failure in convalescence more satisfactorily than alcohol. Nevertheless, we may accept Dr. Watson's views as thoroughly sound and practical.

The same remark applies to the author's very full advice as to diet in renal disease, which is the subject of Chapter XXIV. In it a section on the treatment of chronic nephritis by a chloride-free diet will be read with advantage by all practising physicians.

The last two chapters in the book are among the most valuable of its contents. Under the heading "Special Diet Cures," vegetarianism, purin-free dietary, Salisbury

diet, the grape-cure, milk and whey cures, soured milk, buttermilk, &c., are discussed in Chapter XXXI. Hospital dietaries form the subject-matter of Chapter XXXII., in which a plea is advanced for making instruction in dietetics an essential part of the medical student's curriculum. We conclude by quoting from this same chapter a paragraph, the advice in which medical practitioners would do well to follow :—" There is no doubt," writes Dr. Watson, " that too much food is often given to hospital patients by over-zealous nurses who are anxious to hasten convalescence. The desire to feed is a kindly feminine instinct which should be carefully regulated by the practitioner. The medical man should always explicitly indicate the nature and the amount of food, and the frequency of administration, which he considers advisable for each patient."

A very full Appendix, printed in long primer type, and running to nearly 60 pages, comprises a series of papers which have been published in the past few years on the influence of diet on the structure of the tissues.

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*The Dublin University Calendar.* Vol. III. Being a Special Supplemental Volume for the Year 1912-1913. Dublin : Hodges, Figgis & Co. 1913. 8vo. Pp. xi + 664.

FIVE years have elapsed since a third volume of the " Dublin University Calendar " was published. And now, for the third time, a third volume of the Calendar makes its welcome appearance. Of all three issues the editor has been Mr. M. W. J. Fry, F.T.C.D., and to him we tender our hearty congratulations on the successful result of his extremely onerous editorial duties.

The present edition of Volume III. is a great advance on its predecessors. The editor tells us that " a Preface has become necessary in order to record the names of those who have generously given valuable contributions to the History of the University, so far as it is dealt with in this volume, or kindly assisted the editor by noting im-

perfections or making suggestions." He expresses his special acknowledgments to the Rev. J. P. Mahaffy, D.D., S.F.T.C.D., who placed his annotated copy of the last (1907) edition at his disposal; to Mr. G. D. Burtchaell, M.A., who has contributed a most valuable series of notes on the early Fellows and Scholars; and to the Rev. T. K. Abbott, Litt. D., S.F.T.C.D., who has contributed several interesting notes, including one dealing with the old Dublin Philosophical Society, founded in 1842, and recognised by the Board of Trinity College in February, 1845. It was the predecessor of the University Philosophical Society—familiarily called the "Phil."

In this edition lists of Doctors in Divinity, Doctors in Laws, and Bachelors in Law appear for the first time, by order of the Provost and Senior Fellows. The three cumbersome lists of Bachelors in Medicine, in Surgery, and in Obstetric Science have been incorporated into one comprehensive list. Notwithstanding this condensation, the present edition contains 96 more pages than the edition of 1907 (664 compared with 568 pages). This will give some idea of the amount of additional matter included in the work. As a frontispiece to the volume there is an interesting view of Trinity College in 1681, from the unpublished portion of the journal of Thomas Dingley (or Dinely) in the possession of Sir Francis Winnington, Bart.

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*Headache: Its Varieties, their Nature, Recognition, and Treatment.* A theoretical and practical treatise for students and practitioners. By DR. SIEGMUND AUERBACH, Chief of the Polyclinic for Nervous diseases in Frankfür̃t a/M. Translated by ERNEST PLAYFAIR, M.B., M.R.C.P. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. 1913. Cr. 8vo. Pp. vii + 208.

THIS is a convenient little book. It deals in a practical way with the differential diagnosis and treatment of the symptom, headache, and is well worth reading by every

medical practitioner. It contains nothing specially new or illuminating, but summarises in handy form all that there is to be known on the subject. The writer lays great stress on the recognition of nodular or rheumatic headache, a condition which he believes to be comparatively common. In this belief we fully agree, as we have met with many cases in which distinct rheumatic nodules in the muscles of the back of the neck and in the occipito-frontalis were associated with severe and persistent headache, relieved finally only by massage and radiant heat. Bromides are strongly advocated for migraine, given as a prophylactic between attacks, rather than as a curative remedy for the actual attacks themselves. Nasal and ocular headache; the headache due to increased intracranial tension, and intoxication headache are all fully dealt with. The translator has done his work well.

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*The "Nauheim" Treatment of Diseases of the Heart and Circulation.* By LESLIE THORNE THORNE, M.D., B.S. Durham; M.R.C.S. Eng.; L.R.C.P. Lond.; Consulting Physician (in London) to the St. John's House of Rest, Mentone. Fourth Edition. London: Baillière, Tindall & Cox. 1913. Cr. 8vo. Pp. viii + 104.

THE fact that this little book has reached a fourth edition proves that it supplies a demand on the part of the profession. Dr. Thorne is well known as an advocate for the more general employment of the Nauheim treatment in diseases of the heart, and the careful description of the baths and exercises here supplied should do much in familiarising medical men with the methods to be employed and the results that can be obtained by their use at home.

Very careful details of the make-up of the baths is given, but we wish that a more explicit account had been given as regards quantity of the "one half of a carbonated effervescing bath," which is referred to on page 19. It

is the absence of such minor details as this which annoy a medical man who is anxious to try the baths and refers to a book of this sort for full and complete directions. In every other respect the detail is excellent—the account of the graduated exercises being illustrated by a full list of photographs which almost renders the explanatory text superfluous. An account of indications for and against the adoption of the treatment in any individual case is supplied, and there are also some records of results obtained in actual cases.

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*Vicious Circles in Disease.* By JAMIESON B. HURRY, M.A., M.D. (Cantab.) Second and enlarged edition. London: J. & A. Churchill. 1913. Pp. xiv + 280.

THE vicious circle or the correlations of two or more disorders, so that they reciprocally aggravate and perpetuate each other, is commonly met with in medical and surgical practice, and is generally recognised. It now for the first time, however, is accorded a monograph of its own. Whether working these interactions into "circles" makes them clearer is open to question, but the author has diligently collected and classified, and the result is worth reading.

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*Diagnosis of Bacteria and Blood Parasites.* By E. P. MINETT, M.D., D.P.H., D.T.M. and H., &c. Second Edition. London: Baillière, Tindall & Cox. 1913. Cr. 8vo. Pp. viii + 80.

THIS is the second edition of this useful and concise little book. The author has added sections dealing with tropical diseases which are short and clear, and sufficient to assist the student or practitioner. The whole book is written so as to concentrate what is essential into a small space, and this necessitates the omission of lengthy descriptions of technique. Though a student might not succeed in carrying out lengthy reactions with this book as his only guide, it would be quite sufficient to enable a man accustomed to laboratory work to accomplish the Wassermann reaction

and other newer methods of diagnosis. The fact that the book has so soon reached its second edition is a guarantee of its popularity.

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*Abel's Laboratory Handbook of Bacteriology.* Second English Edition. Translated from the Fifteenth German Edition by M. H. GORDON, M.A., M.D., &c. With additions by DR. A. C. HOUSTON, DR. T. G. HORDER, and the Translator. London: Henry Frowde, and Hodder & Stoughton. Oxford Medical Publications. 1913. Cr. 8vo. Pp. xi + 251.

THIS is a convenient laboratory handbook, and contains a great deal of information in a short space. The new edition has short additions by the translator and Drs. Horder and Houston. These contain information as to the examination of dust, water, and air, the examination of blood with regard to immunity, and a short account of methods of procuring material for cultures. The descriptions of culture and staining methods are good and fairly complete. There are excellent descriptions of the best methods of isolating typhoid, para-typhoid, and cholera microbes from the faeces. All the newer methods for the detection of tubercle bacilli in sputum are given at length. The text is excellently written, and does not betray that it is a translation.

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*Gout: Its Aetiology, Pathology, and Treatment.* By JAMES LINDSAY, M.D. (Edin.); M.R.C.P. (Lond.); Hon. Physician, formerly Hon. Pathologist, and Res. Med. Officer, Royal Mineral Water Hospital, Bath. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. 1913. 8vo. Pp. xii + 212.

THIS is a pleasantly written little book, not too learned or too crowded with bibliographical references, but practical and readable. The writer has had the opportunity of studying nearly 600 cases of gout, mainly at the Royal Mineral Water Hospital, Bath, and, in consequence, may be accepted as speaking with some authority. He deals

with the disease systematically, and discusses in succeeding chapters, the ætiology, morbid anatomy, symptoms, diagnosis, and treatment of gout. There is nothing very new in the book, but the various facts and theories discussed are illustrated by analysis of the cases observed. We are glad to notice that the author does not associate himself with that school of thought which pretends to believe that uric acid and its salts have nothing whatever to do with the development of gouty symptoms. Undoubtedly, the public lay too much stress on the evils wrought by uric acid, and, further, the common diagnosis that a patient is "full of gout," or simply "a storehouse of uric acid," is as often as not more convenient than true; but this is no reason why we should, as a protest, blind ourselves to the fact that uric acid does at times exist in excess in the blood of gouty patients, and that the actual paroxysms of gout are accompanied, and doubtless caused, by a precipitation of uric acid salts in the tissues. In the chapter on the treatment of gout the writer gives an excellent, though brief, account of the different spas which have acquired a reputation for the relief of gouty symptoms. He discusses carefully the result that may be expected from a course of treatment at any of them, and indicates the type of case for which each is suitable. We have read through the book with pleasure and profit, and can recommend it.

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*New and Non-official Remedies*, 1913. Chicago: Press of American Medical Association, 535 Dearborn Avenue. 1913. 8vo. Pp. 320.

THIS volume contains descriptions of the medicinal substances which have been examined by the Council on Pharmacy and Chemistry of the American Medical Association prior to January 1st of the present year, and accepted as having complied with the rules adopted by that Council, and printed at pages 9, 10, and 11 of the book.

Among the members of the Council are some of the

first names of the Professors of Medicine, Therapeutics, Pharmacology, and Materia Medica in the United States of America, so that the contents of the book may be looked upon as having successfully run the gauntlet of a severe and searching criticism.

It is chiefly as a work of reference that this work is valuable, and a very full and clear general index much enhances its value. This general index is followed by a useful index to manufacturers. It is proposed to issue an edition of "New and Non-official Remedies" year by year.

### RECENT WORKS ON MIDWIFERY.

1. *Guide to Midwifery.* By DAVID BERRY HART, M.D., F.R.C.P.E.; Lecturer on Midwifery, School of the Royal Colleges, Edinburgh; formerly Obstetric Physician, Royal Maternity and Simpson Memorial Hospital, Edinburgh; some time Examiner in Midwifery and Gynaecology in the Universities of Edinburgh, Oxford, Liverpool, Birmingham, &c. Pp. xv and 765. With 4 Illustrations in colour and 268 Diagrams. London: Rebman, Limited. 1912.
  2. *The Principles and Practice of Obstetrics.* By JOSEPH B. DE LEE, A.M., M.D.; Professor of Obstetrics at the North Western University Medical School; Obstetrician to the Chicago Lying-in Hospital and Dispensary, and to Wesley and Mercy Hospitals; Consulting Obstetrician to Cook County and Provident Hospitals, &c. Pp. xiii and 1060. With 913 Illustrations, 150 of them in colours. Philadelphia and London: W. B. Saunders Company. 1913.
1. DR. BERRY HART'S book is the latest British contribution to the literature of obstetrics, and deserves a very high place in that literature. It treats very fully and carefully the different matters introductory to the practice of midwifery, and almost equally carefully the practice itself.



As a result, a handy volume is formed which will be of the greatest use to students and practitioners.

The book is in two parts, the first of which includes all that is usually found in a work of the kind, while the second part is quite an original addition to a work of the kind. It consists of an elaborate series of notes and discussions relating to the chapters in Part I., with the object of elucidating difficult points, and also of an extensive bibliography. This second part will be found of the greatest value not alone by the general practitioner but by specialists in midwifery and writers on obstetrical subjects. As an instance of the subjects treated may be mentioned an elaborate article on "Evolution in Obstetrics," in which the importance and relation to midwifery of Darwinism, Weismannism, and Mendelism is clearly shown.

We have much pleasure in congratulating Dr. Berry Hart on his work and in wishing it every success.

2. THIS thoroughly American work probably establishes a record—so far as works on midwifery in the English language are concerned—for size and number of illustrations. It aims particularly at meeting the necessities of the general practitioner and the student, and if it does not succeed in doing so their necessities must indeed be great. Diagnosis has been made a special feature, and the relation of obstetric conditions and accidents to general medicine and surgery have been fully brought out.

The subject-matter is divided into four parts:—The Physiology of Pregnancy, Labour and the Puerperium, the conduct of the same three, the Pathology of the same three, and Operative Obstetrics. With but few exceptions, the illustrations are original; but it is evident that the artists have derived much assistance from Bumm's work on the same subject—an assistance which the author gratefully acknowledges.

Dr. de Lee's work is monumental, and though, to the British way of thinking, it is too large for either the student or the practitioner, save as a work of reference, it

will be found of the greatest value by the specialist, and, to all, its illustrations will prove of use. The enormous labour that has been devoted to its production, the research which it has entailed, and the personal and practical experience it embodies alike call for praise and emulation.

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*West Africa. Report on Certain Outbreaks of Yellow Fever in 1910 and 1911.* By DRs. A. E. HORN and T. F. G. MAYER, of the West African Medical Staff. 1913. London: Published for the Crown Agents for the Colonies by Waterlow & Sons. 1913. Folio. Pp. 108. Maps 6.

THE most striking thing about this report is the way in which sanitation problems are attacked by men in the Colonial Medical Service, and the whole conduct of the affair is typical of the splendid work they are doing. If it were possible to deal with epidemics of infective diseases at home with the same thoroughness and celerity, much more might be done to stamp them out. During 1910-1911, cases of yellow fever occurred sporadically or in small epidemics in various parts of West Africa from Cape Verde to Lagos, and this report gives notes on 64 cases and the conclusions drawn from them. The history of the epidemics in seven centres, and the measures taken to suppress them, is given in full, and much credit is given to Drs. Kennan and Rice, Senior Sanitary Officers of Sierra Leone and the Gold Coast respectively. Among other appendices are reports by the late Sir Rupert Boyce on the epidemics at Free Town and on the Gold Coast, a report by Dr. Kennan on "Bayloo," an endemic native disease, possibly identical with mild yellow fever, which largely attacks the children, and is sometimes fatal, and a report on yellow fever in Togoland; and maps are added to show the distribution of the disease and the ascertained distribution of the *Stegomyia* mosquito, now universally considered to be the only carrier. The interest of the whole matter lies in the question:—Is yellow fever endemic among the natives of West Africa; was it

carried thence to America with the slaves, and are these epidemics due to the spreading of the disease to the non-immune population, the natives although not absolutely immune having mostly been exposed to infection during infancy? It appears likely that this is the case, and that in the past yellow fever, unrecognised or confused with severe malaria, has been the greatest cause of the mortality from which Sierra Leone has been called "The White Man's Grave."

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*A Manual of Immunity for Students and Practitioners.*

By ELIZABETH T. FRASER, M.D. (Glas.); late Assistant Bacteriologist, Glasgow Royal Infirmary; Beit Research Fellow. Glasgow: James MacLehose & Sons. 1912. Cr. 8vo. Pp. x + 199.

THE study of the problems of immunity has reached a stage of such complexity that it is extremely difficult for any but those actually engaged in laboratory work to keep pace with its constant advance, and the very terms used are so many and so new and outlandish that they are enough to scare the general practitioner from any attempt to study the subject. Yet the results—vaccines, serum diagnosis, and so forth—have come so much into everyday practice that it is important for all who wish to understand the theory as well as the practice of modern Medicine to have clear ideas on the fundamental facts of this new science. The book under review is an attempt to explain, within modern compass, the science of immunity and the results obtained from its study. The six chapters deal with a historical survey of the subject; the body fluids, the body cells, and the micro-organisms as factors in immunity; immunity reactions employed for therapeutic and diagnostic purposes, and, finally, anaphylaxis. Thus we learn about anti-toxins, opsonins, agglutinins, and so forth, about phagocytosis, and about the changes which take place in bacteria when grown in the living body, and following from these the chief points about serum and vaccine therapy, and the uses of the

Widal, Wassermann, and kindred reactions, the opsonic index, and tuberculin diagnosis. The whole question of acquired sensitiveness or anaphylaxis, resulting practically in serum disease and other phenomena, is one of great interest. Little is really definitely known about it, but the main points already established are carefully explained in the chapter devoted to this subject. Altogether the whole book explains clearly enough a difficult subject, and the addition of a full glossary is a great help. The actual methods used in such processes as the Wassermann test or the estimation of the opsonic index are also given fully, although, as is natural in a book of this size, some of the processes in use, such as Fleming's modification of Wassermann, are omitted. An appendix explains Ehrlich's "side-chain" theory of immunity, and gives some account of his work in the production of such drugs as salvarsan.

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*RECENT AMERICAN "TRANSACTIONS."*

1. *Transactions of the American Pediatric Society.* Twenty-third Session. Edited by LINNAEUS EDFORD LA FETRA, M.D.
  2. *The Transactions of the American Pediatric Society.* Twenty-fourth Session. Edited by LINNAEUS EDFORD LA FETRA, M.D.
1. THE meetings of the Twenty-third Session of the American Pediatric Society were held at Lake Mohonk, N. Y., May 31st to June 2nd, 1911. The Transactions for this Session occupy 388 pages, and are well edited. They contain 36 papers. In his short presidential address, Dr. Henry Dwight Chapin deals with "the Fundamental Principles of Pediatrics," and lays stress on the advantages of a sound knowledge of physical and biological science in undertaking the welfare of children. The first four papers discuss infant nutrition from various points of view, as protein metabolism, the rôle of mineral salts, &c. There are several important papers on the prevention,

management, and isolation of infectious diseases in children's hospitals. Dr. Northrup reports good results in the Presbyterian Hospital, by screening off infectious cases in general wards, and by using spray instead of tub baths. Koplik discusses the box system. Six papers are devoted to infantile paralysis, its occurrence, the cerebral form, the control of epidemics, &c. Among the papers on food-stuffs, Professor Holt explains a ready method of calculating milk formulas of various percentages and the caloric value of the same. A fair share of the articles comprises clinical reports on unusual or rare cases, as amyotonia congenita, Mikuliez' disease, diabetes mellitus in a seven months' old child.

The 1911 volume contains a fair amount of original research, and its value is enhanced by a number of good illustrations, tables, and charts.

2. TWENTY-FIVE papers are reported in the Twenty-fourth (1912) Volume of the Transactions of the American Pediatric Society. That is about a dozen less than the previous year. This number also contains the Index of Volumes XV. to XXIV., inclusive. The meetings were held at Hot Springs, Virginia, from the 29th to the 31st of May, 1912. The president, Dr. Walter Lester Carr, gave his address on "The Relation of the American Pediatric Society to the Reduction of Mortality in Infancy and Childhood."

The subjects discussed by the members covered a good deal of medical and pathological work, but surgical subjects are conspicuous by their absence. There is a long paper on the coagulation time of blood in infants and children by Drs. Carpenter and Gettings. Dr. Nicoll, on "Inclusion Bodies in Scarlet Fever Blood as a means of Differential Diagnosis," reports the results of examinations of 115 cases, and 80 controls. As he wished to ascertain the practical value of this work, the controls were taken, as far as possible, from patients with pathological conditions clinically resembling scarlatina. He concludes that these bodies will be found in every case of

scarlatina (except the fulminating type, the subjects of which die before the tissues have time to react), up to and including the fourth day of the disease; that they will not be found in anti-toxin rashes, measles, rubella, various toxic rashes due to drugs or intestinal absorption, probably not in ordinary tonsillitis, but regularly in general sepsis.

Dr. Griffith, in an interesting account of 75 cases of enteric fever in infants under two and a half years, shows that the rash appears earlier, and the onset generally is shorter, than in adults. In only 16 cases was the disease present in other members of the family.

Dr. Churchill investigated the blood of 101 infants by the Wassermann and the Noguchi reactions, and found that 38 per cent. were syphilitic. Thirty-seven per cent of these showed no symptoms.

Other papers deal with infant feeding, the employment of salvarsan, and the report of cases of interest.

The printing and illustrations of the volume are all that can be desired.

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*Sex Antagonism.* By WALTER HEAPE, M.A., F.R.S.  
London: Constable & Company, Ltd. 1913. Demy  
8vo. Pp. 217.

THE tangled series of the problems of sex—as has been so truly stated of poverty and its multitudinous complications—is always with us. And if we but once allowed ourselves the rash licence of prophesying in connection with the future history of any of the features of human nature in its cosmopolitan totality, we should feel a greater degree of confidence in risking our soothsaying reputation with posterity by staking it on the statement that the *former* of the two great crucial queries stands, in the very nature of things, animate and inanimate, in sure and constant expectation of becoming the *latter* in date of arrival. For the ghastly *datum* of destitution presents no impossible quality of which the resistance cannot be successfully overcome by a series of Liberal Budgets, and philanthropic utilisation of the same—in fact, it depends

on the things *external* to the personality of *homo sapiens*. But the imperishable *crux* of “*sex antagonism*” (which has existed at least since the memorable occasion on which Eve overcame the reluctance of Adam to taste the apple, and the latter sought partial shelter from the immediate terrors of conviction by shifting the blame on to the shoulders of his ill-advised helpmate) has been all too obviously built into the deepest *internal* recesses of the human frame, while manifesting itself superficially by unmistakeable indications—of functional capability—suggestive of the relative value of the mediæval interpretation of Nature’s hieroglyphic system of *signatures*, and of the elaborate system of Aristotelian physiognomy which was worked out with so refined detail by Giovanni Battista Porta. Accordingly, in keeping with the circular progress of scientific evolution in the present day, we find the British apostles of light and leading waking up to recognition of the unavoidable necessity of examining the comprehensive questions of sex function and sex relationship—and the education of their contemporaries, and upbringing of the rising and all future generations, in a thoroughly illuminated sexual atmosphere. As usual, they are a good bit behind time—even in this decade of miraculous advances; in distribution of education, in wireless transmission of instantaneous thought, and in the long undreamed-of velocity of aerial transit.

We have perused Mr. Heape’s contribution to the study of this subject with genuine pleasure and instruction. The “Introductory” chapter is, in itself, a thoroughly philosophic presentation of a skilled expert’s view of a problematic position of engrossing importance; of a vista which, having been always present to superficial observation, failed to excite special curiosity from the very fact of its familiarity, till some explosive changes therein led us to discover the unreliability of our position and its protective structures—as a rude shock sometimes brings down the edifices of which the very substantial-looking wooden pillars of support have long been in receipt of the internal attentions of the insect whose industry excited the peren-

nial admiration of the wisest of men. In plain language, such as the skilled teacher prefers to use for purposes of instruction, he tells his readers that : " The existence of sex antagonism *per se* is sufficiently accounted for by the fact that the Male and Female are differently organised, and that Nature has set them different tasks to perform in conjunction with one another." This statement of the author's view-point naturally suggests comparison with that of the " liberty and equality " which appear (nominally) to be the objects of the suffragette. Perhaps it is but a structural item of the monstrous labyrinthine fortress of (rather unskilled) sophistry which represents the Babel tower of this democratic generation : the thesis that man and woman are actually equal—which includes the conjoined implication that the Creator was guilty of a grievous lapse in constructing distinctive organs so obviously and unchangeably different in structure and function. We cordially corroborate Mr. Heape's statement of opinion : " It is obvious that, given a satisfactory environment, if the Male and Female concerned themselves only with the duties Nature has determined for them, sex antagonism would be latent."

It is, of course, but a manifestation of the inevitable to find the experts differing in (expression of) opinion regarding some of the mixed questions associated with the relations of the sexes. The primitive practice of *exogamy* and the alleged horror of *incest* are energetically discussed here : they have received a great deal of attention lately from the specialist in anthropology and folk-lore. Exogamy is regarded by Mr. Heape as " a product of the Masculine mind "—in this respect contrasting with totemism. The collateral item of information is given : " The scarcity of women, their capture, the religious sentiment regarding menstruous blood, and the instinctive aversion to sexual intercourse with those who have lived together from youth ; are all based on this idea of Male supremacy." In the remote villages and congested districts of the Irish " Western World " of half a century and less ago, the state of education and of superstition



was decidedly primitive; the patriarchal system of family government being thoroughly recognised and established. And the match-maker was found almost invariably to look abroad; the father of the prospective bridegroom could press more firmly for amount of *dot*, while his son would be placed at a relatively safe distance from the ever-dreaded mother-in-law—who, with the correspondingly vicious step-mother would appear to have constituted *vital* arguments in every age and locality of the world against the granting of extensive material powers to the physically weaker female! Some of us are thoroughly satisfied that these arguments still hold good. We must here emphasise our agreement with Mr. Heape's statement that [semi-] savage life inculcates shrewd observation, that skirmisher of intelligence. We are utterly sceptical regarding the *conceptional totemism* of the Banki Islanders—while admitting the occasional recognition among many primitive peoples of impregnation by the *Spirit*: of the *air* (or *æther*, or "heaven") above, or of the animal or plant on, or even of the waters under, our earth. But we are not quite sure that Dr. Frazer, our encyclopædic authority on, as well as advocate of, this curious statement of belief has personally examined those remote islanders and received in trustful confidence the native view. Most beliefs associated with the "modern" discovery (or invention) of totemism have to await, we still believe, their final formulation in Western language. We are not satisfactorily enlightened even by Mr. Heape's statement regarding human intelligence, deliberation, and will. "These faculties of the human mind themselves have arisen in accordance with biological law." It sounds so *very* "modern": we almost are induced to look forward to having the facts and effects of this *biological* law weighed and measured—and then valued—"in accordance with" biometrical practice. Are we ever to see an end to the substitution of polysyllabic terms for reliable facts and logical reasoning? We find that the unique authority on anthropology and folk-lore is here quoted for his penetrating statement: "Some Australian tribes re-

gard the acceptance of food from a man by a woman not only as a marriage ceremony but also as the actual cause of conception." There we leave Dr. Frazer to the indulgent consideration of the reader!

As the subject dealt with by the learned author embraces all aspects of the inter-sexual relationship which is so seldom wholly freed from the decidedly mysterious element of antagonism, he has felt called on to discuss all the (leading features, at least, of the) complex influences, active and passive, of the representative posterity of Eve. Birth-marks, for instance, are alluded to; and medical testimony is cited. But it is on such ground that our scientific Samson appears as if recently emerging from the arms of his Delilah. We have hitherto encountered no exception to the rule regarding the danger of contact with *professional* subjects—even in case of the most accomplished outsider. Better stick, in this and germanic cases, to the folk-lore evidence. And we can offer him one or two items. The Irish popular account of the genesis of the birth-mark was that: when a susceptible pregnant woman had an object abruptly thrown to her, the first part of the cutaneous surface which she then touched would determine the appearance of the birth-mark impression; in the form of an "image" of the missive, on the corresponding area of the skin of the unborn infant. And, as the illiterate had a morbid horror of such deforming objects appearing on the face—the part most likely to be touched—instantaneous digital attention to the skin of the gluteal region was prescribed as the only eligible prophylactic procedure. A somewhat analogous case arose when a hare crossed her path while engaged in her bare-foot peregrinations in the fields. The only safeguarding procedure in this case was to stoop at once and tear a vertical slit in the lower border of her "home-made" flannel petticoat. And so-forth.

The late Mr. Andrew Lang has inevitably had some of his views reproduced here: the only effect on the present reviewer being to feel some (necessarily useless) regret that he, as well as Dr. Frazer—and many other Caledonian

geniuses of greatly daring intellect and enterprise—had not left the subjects of physiology and heredity quite cautiously, if not severely, to stand all alone. But, in the present muddled state of the current of British scientific literature, the intrusion of their published views was, of course, a deplorable necessity. Anyway, Mr. Heape has presented them clearly in every instance, and—we are very pleased to be able to add—discussed them destructively, as well as lucidly, in some of their more flagrant divagations. And we close this very imperfect notice of an important and ably-prepared volume, by cordially thanking the author for the genuine pleasure and intellectual profit which we feel that we have derived from its perusal.

J. F. K.

*Our Baby: for Mothers and Nurses.* By MRS. J. LANGTON HEWER. Fourteenth Edition. Illustrated. Bristol: John Wright & Sons, Ltd. 1913. Cr. 8vo. Pp. viii + 192.

THE fourteenth edition of this well-known and excellent little book shows that not only is its past standard of excellence maintained, but valuable new additions have been made. The chief of these is a chapter on “Baby in the Tropics,” which should be of great value to mothers in India.

*Lessons on Elementary Hygiene and Sanitation, with Special Reference to the Tropics.* By W. T. PROUT, C.M.G., M.B., C.M. (Edin.); Medical Adviser to the Colonial Office; late Principal Medical Officer, Sierra Leone, &c. Third Edition. London: J. & A. Churchill. 1913. Pp. xx + 184. Fig. 60.

THIS elementary text-book, which is in the form of lectures, was written originally for the use of schools in the Tropics. Intended as a complete course, it has to include some elementary anatomy and physiology, to which four out of the fourteen chapters are devoted. The

other ten include lessons on vegetable and animal parasites, malaria having two chapters to itself; on food, water, air, dwellings, clothing, and personal hygiene. Altogether the book in its present form gives very full and clear teaching on tropical hygiene and sanitation, and might be read with advantage not only by those for whom it was intended, but also by those who are about to live in a tropical climate, and wish to know how to take care of their health when abroad.

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*Babies: a Book for Maternity Nurses.* By MARGARET FRENCH. London: Macmillan & Co. 1913. Pp. 80.

THE author of this little book deserves very hearty congratulation. It has been said that nothing is harder to write than a small, simple text-book, and, to judge by the numerous indifferent books of this type that are constantly being produced, it seems as if the remark might be true. Here, however, we have a small text-book containing almost everything that a maternity nurse can learn from books about a baby, and yet nothing unnecessary is given, and the whole is presented in a clear, readable form.

The book also includes some tables and charts which should be very useful. We cordially recommend it to all infants' nurses.

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#### LEWIS'S POCKET CASE BOOK.

WE have received from Mr. H. K. Lewis a new Pocket Case Book designed for the use of students and practitioners. The book is neatly bound in limp cloth, and the page measures 8 inches by 5 inches. It is arranged for 25 cases; four pages are allotted to each case; and the headings are arranged for the record of the usual particulars, including personal history, family history, and present condition. There are also diagrams for the marking of physical signs, space for diagnosis, prognosis, and extra space for the record of treatment and progress, including a miniature chart which should be very useful. The price is 1s. 6d. net.

## PART III.

### MEDICAL MISCELLANY.

*Reports, Transactions, and Scientific Intelligence.*

#### ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—WALTER G. SMITH, M.D., F.R.C.P.I.  
General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

#### SECTION OF OBSTETRICS.

President—SIR ANDREW J. HORNE, F.R.C.P.I.  
Sectional Secretary—G. FITZGIBBON, M.D., F.R.C.P.I.

*Friday, April 18, 1913.*

DR. R. D. PUREFOY, P.R.C.S.I., in the Chair.

*Congenital Cystic Tumour* (illustrated by photograph).

DR. SPENCER SHEILL exhibited a photograph demonstrating this condition in an infant. The tumour was present at birth, and gradually increased in size during the first few days, after which it remained stationary until operation. It was situated in the mammary line on the right side, and seemed to cause the child inconvenience when the binder was tightened round him. He allowed the tumour to remain for two months, and then, as there were no signs of subsidence, he evacuated it with trocar and canula, withdrawing one ounce of serous fluid. It, however, again filled up, and he hoped to open the tumour next week and treat it as an open wound. He gave details of a former case somewhat similar, and regretted not having photographs of the condition to show.

THE CHAIRMAN said he was sure Dr. Sheill was correct in looking on this as an uncommon form of tumour, and he inquired if the fluid in both cases were similar in appearance. He looked forward to hearing the result of the treatment

indicated by Dr. Sheill, and hoped that some additional information would be gained in regard to the nature of the growth.

DR. SHEILL, replying, said he had not tested the fluid microscopically, but the naked eye appearance was similar in both cases.

*Clinical Report of the Rotunda Hospital.*

DR. JELLETT read the Clinical Report of the Rotunda Hospital for one year ending October 31st, 1912. [The first instalment of this Report appears in our present number, at page 1. The remainder will be published in the number of this journal for August.]

THE CHAIRMAN said the fatal cases of accidental hæmorrhage brought home to them what a terrible complication of labour this hæmorrhage was. He thought a considerable number of the fatal cases were due to the fact that accidental hæmorrhage is met with in those patients who are suffering from organic disease, and, consequently, they were called upon to deal with this serious condition where the patient is badly able to stand the shock attending the hæmorrhage. He was inclined to think that in these cases vaginal tampons might be left in a little longer; however, those who have charge of the cases can best judge. He considered that one of the greatest risks and most serious mistakes was the undue anxiety to empty the uterus quickly and before the patient had time to rally from the hæmorrhage which had already occurred. He did not quite understand the advantage that the Master of the Rotunda Hospital claimed for the introduction of early rising of patients after their confinement. That it was contrary to the usual practice, and present teaching need not be taken as a fatal argument against it; but he was by no means convinced from what he had heard that the practice was to be recommended, nor did he consider the fact that no accidents had been reported in the cases treated as sufficient argument in favour of it. He suggested that the treatment might in future produce a number of patients suffering from misplacements, &c. He would like to ask if Dr. Jellett had found this method beneficial in his private practice, as it should be borne in mind that most of the patients admitted to the Rotunda Hospital were in poor circumstances, and the rest they enjoyed during their stay in hospital was generally much needed.

He agreed with the Report as to the treatment of puerperal eclampsia—*i.e.*, that there are cases which defy all efforts to save life, and he recalled his own experience as Master when very nearly as good results were obtained; but even then sometimes a run of fatal cases was recorded.

He thought it was very interesting to notice that the patient who was already septic on admission recovered so satisfactorily from the formidable operation of Cæsarean section and hysterectomy. It appeared to him that there has been an undue dread of performing Cæsarean section in cases in which there was a possibility of sepsis, and he considered the cases recorded in the report showed that there was no need to despair even where a slight degree of sepsis existed.

Referring to the outbreak of sepsis during the year, he had very great difficulty in accepting the explanation that it was due to the water supply, and he was somewhat relieved to find that the Master does not adhere to that explanation of it now. Although, with our present knowledge of sepsis, it was somewhat humiliating that such an outbreak should occur, yet he considered that it should not be disheartening, but should lead to redoubled efforts to deal with the condition when it did arise.

He was not enamoured with the use of gloves in ordinary obstetric cases, as if their use in the management of ordinary cases became a habit he thought it might lead to carelessness in the disinfection of the hands and arms.

DR. SPENCER SHEILL, referring to the early rising of patients, said he was greatly in favour of it, and in private practice he had got nothing but the best results by its adoption. The practice, he considered, was contra-indicated in cases which had shown signs of prolapse or other complication. The advantages accruing from early rising, he considered, were—stronger patients, quicker return to normal health, less constipation, and—he thought the most important point—a distinctly more rapid involution of the uterus.

In Case III. in the Report he noted that “as a last chance venesection was performed.” He took exception to the term “last chance,” because he considered that if this were done sufficiently early in eclampsia it would be followed by beneficial effects.

He considered that the Report raised a very important point regarding cases of pubiotomy and symphysiotomy. If

this patient, in whom a piece of bone came away, could walk after the operation all the power of the argument against such procedure disappeared.

He inquired the nature of the microbe found in the case of general peritonitis, and whether the streptococci, if they were present, were introduced from without.

He considered it doubtful that the water tanks had anything to do with the introduction of sepsis. He suggested that the personal element should have been inquired into, and also the form of the sepsis that occurred, if investigated, might help in the solution of the mystery.

DR. TWEEDY considered a little fuller information might, with advantage, have been given on some points. This was noticeable in the case of eclampsia, where no mention was made of the quantity of fluid given. Again, in dealing with sepsis, the steps taken to discover the cause of the infection were withheld. He considered it deplorable that the cause was not found, for if the infection arose from anything wrong with the new wards it would be a very serious matter to have to admit it eluded detection. If a table had been presented showing the day of infection, for if it could be shown that the majority were cases of late infection the labour wards would have been put out of count. He could not accept the view that the tank water was a source of the sepsis, though the fact that these tanks had to be employed was a source of anxiety. He inquired what arrangements the Master had made to cleanse them. When he was Master of the Rotunda Hospital he preferred to leave the tanks alone rather than run the risk of infection through so-called cleaning. When he had seen that twenty-five cases of prolapse had been recorded he immediately thought that the early rising might have brought this high figure about; but on looking closer at the Report he saw that cases were included under this heading which it is usual to classify under the headings of rectocele and cystocele. He did not, therefore, think there were a greater number than heretofore.

Referring to the last paragraph in the Report he considered it hardly fair to calculate the mortality percentage on the number of admissions rather than the total deliveries, for the majority of patients who were sent out not in labour had no more to say with the hospital than had the visitors.

DR. BETHEL SOLOMONS said the diminished morbidity was eminently satisfactory, especially when one takes into con-



sideration the ill-fortune attendant on the opening of the new labour wards. He wished to know if the cervix was removed and if drainage was employed in Cases I. and V. in the Obstetrical Report. Case IV. was a typical example of the necessity for very radical operations in cases of papillary cyst of the ovary. The number of cases of failure of primary union after perinæorrhaphy is omitted in this Report. The operation of removal of septic thrombosed veins is one of the greatest advances in obstetric surgery. There is no doubt that the first case in the Mortality Table would probably have lived if an operation had been performed, and Dr. Jellett is to be congratulated on saving the lives of at least two patients by his prompt and daring operations. The statistical papers in the March number of "Surgery, Gynæcology, and Obstetrics," on the subject of cancer of the uterus, make one wonder at the small number of cases of malignant disease of the uterus in this Report. Five operable cases presented, and of those only one was cervical cancer. It would be of interest to have the opinion of the Master of the Rotunda Hospital as regards operability, and whether he has adopted Byrne's method of the galvano cautery. Gellhorn in the above paper, notes that those who operate on most cases have the greatest percentage of cures, and quotes the figures of Franz, who operated abdominally on 82 per cent. of the cases seen. As Franz has better results than any one else, his teaching seems a beneficial one to follow.

DR. GIBBON FITZGIBBON said that the Report had shown that Dr. Jellett was a strong advocate of myomectomy in preference to hysterectomy whenever possible. Referring to the table of Wertheim's operations, there was one case which he considered needed a little further elucidation—*i.e.*, why was the Wertheim done in the case of cystic papilloma of the ovary. He inquired if anything was to be gained in doing Wertheim's operation where the primary disease was ovarian.

He drew attention to the disparity between the figures for suture of perineal lacerations in the Extern and Intern Maternity. In the former the number was 186; in the latter, 546.

He considered that a table of cases which return to hospital for subsequent confinement where myomectomy or suspension operations had previously been performed on the patients would be most instructive, and such a table would

be useful as a guide as to the results to be anticipated from such operations.

DR. CROFTON suggested that a bacterial examination of the water might have discovered what the infecting organism was. He suggested that a vaccine might have been found useful in the cases of ophthalmia that occurred.

DR. JELLETT replied to Dr. Purefoy's fear that early rising would give place to displacements, prolapse, &c. He (Dr. Jellett) saw no reason that because midwifery practice had been managed on abnormal lines it should continue to be so managed. He considered that in the first place drainage of the uterus was prevented by keeping the patient in bed. It also favoured backward displacements, interfered with the action of the bowels, and was detrimental to the general well-being of the patient. He thought that in hospital practice, at any rate, it was contrary to the wish of the patients, as his experience was that they liked to be allowed up early. He attributed the reduced morbidity shown by the Report to the fact that the patients were allowed up early, and he pointed out that no patient was allowed up except everything was normal. He looked forward to the time when obstetricians would be agreed on the practice of allowing patients up soon after their confinements.

Regarding the outbreak of sepsis he was not at all prepared to abandon the consideration that the outbreak was in part due to the new buildings and to the infection of the water tanks. The only point against the latter theory was that there was no sepsis in the operating theatre. He referred to the fact that when the Gynæcological Hospital was first opened violent sepsis occurred amongst the operation cases, while the labour wards were quite clear of it. He thought that there was always a tendency to sepsis where buildings were being interfered with. He detailed the methods adopted in cleansing the tanks. Replying to a question from Dr. Sheill, he said that the rearrangement of the nursing staff went on hand-in-hand with the opening of the new wards. Referring to eclampsia, venesection might, he thought, do good in certain cases. With regard to the case of pubiotomy he agreed with Dr. Sheill when he said that it clearly proved that loss of the power of walking cannot result from failure of union of the pubic bone. Referring to Dr. Tweedy's comment on prolapse operations, he (Dr. Jellett) did not think marked cystocele and rectocele which called for

prolapse operations could be included under any other heading than "prolapse." The number of cases in which the uterus was prolapsed was about 70 per cent. of the total given in the tables.

Myomectomy had been done on a far more extensive scale than usual, and he was satisfied with the results. The only cases in which myomectomy was not performed was where the retention of the uterus was not of consequence owing to age or other considerations, or where the number of tumours was too great.

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## SECTION OF ANATOMY AND PHYSIOLOGY.

President—B. J. COLLINGWOOD, M.D.

Sectional Secretary—A. A. M'CONNELL, M.B., F.R.C.S.I.

*Friday, April 25, 1913.*

THE PRESIDENT in the Chair.

*The Formation of Creatin in the Animal Body: Effects of Administering Arginin with Betäin and Cholin.* (Illustrated with lantern slides).

PROFESSOR W. H. THOMPSON referred to a previous communication ("Transactions: British Association," 1912), in which he had shown that arginin, when given with the food or parenterally led to an increased excretion of creatinin and also to the appearance of creatin in the urine of the dog. Of the total arginin-nitrogen, 6 to 16 per cent. reappeared in this way.

Further observations were made to test whether the addition of methyl compounds would increase the output of creatin-creatinin. In these, arginin was combined with methyl benzoate, betäin, or cholin, but in no case could it with certainty be claimed that the output of creatin-creatinin was greater than that caused by arginin alone.

THE PRESIDENT said that he would like to hear more as to the bearing of arginin on metabolism, also what proportion exists between creatin formation and urea formation.

The search for methyl he considered most interesting. It appeared to him that the methyl supplied artificially was ignored, and the organism seemed to fall back on the methyl found normally in the body.

He inquired if the arginin was converted into creatin and creatinin where did the alteration take place?

PROFESSOR BARRY inquired the age of the animals with which the experiments had been conducted, and asked how the age of the animals affected the process.

He was also anxious to know if any controlled experiments had been carried out beforehand to ascertain the normal output of nitrogen.

PROFESSOR THOMPSON, replying to the remarks, said that about 90 per cent. of the arginin-nitrogen came out as urea and from 5 to 10 per cent. as creatin. It had been shown that there was sufficient arginin in dead food to supply the arginin needed in the body. He considered that it was not the amount of methyl administered that determined the amount of creatin. It might be that the arginin withdrew its methyl from what was administered, but he thought there was some other unknown influence at work.

He mentioned that fusion experiments had been conducted last summer which showed that there was slight formation of creatin in the liver, and when arginin was added there was a slight increase in the amount of creatin obtained. He considered that the liver was not the only place in which creatin was formed.

The animals with which the experiments were carried out were dogs from one to two years of age. They were fed on a known diet, and preliminary observations of the output of nitrogen were taken over a period of nine or ten days.

#### *The Spinal Cord in relation to the Respiratory Nervous Mechanism.*

PROFESSOR D. J. BARRY first gave a short historical survey of the above subject. Gad, in 1880, demonstrated predominant expiratory effect of the vagus; inspiratory of minor importance. Head's experiment in 1889 in refutation of Gad's view was not acceptable, because collapse of lung produced by Head is not a normal stimulus.

In a series of rabbits and cats Dr. Barry showed that by cutting the cervical cord the response to blocking the trachea in the expiratory phase was abolished. Excising of the stellate ganglion in the cat before cutting the cord showed that the response was interfered with, but not altogether abolished. Conclusion.—Afferent stimuli for inspiration pass normally up the cord, and the vagus conveys in the main

expiratory stimuli. The inspiratory afferent stimuli are—at least in part—muscular in origin.

THE PRESIDENT asked if the effects produced were due to carbon-dioxide accumulation, or to the action of the nerve centres. He thought if carbon-dioxide and any changes in the blood were excluded, it was clear that there must have been a nerve influence. He pointed out that the amount of operative interference during these observations must have produced a certain amount of shock, and that it would be difficult to properly estimate the influence of this shock on the results of the experiments. He considered it clear that the lungs exerted a good deal of influence on the respiratory act.

PROFESSOR THOMPSON felt convinced that Professor Barry had shown that there was mainly only one form of afferent nerve. It also appeared that there was conduction of the respiratory impulse along the cord. He did not see any difficulty about the sympathetic or vagi acting as afferent nerves. He did not think that the respiratory movements were confined to the muscles of respiration, but involved the muscles of the limbs, and that both of these muscles act in harmony.

PROFESSOR GEDDES suggested that the respiratory movements were not confined to the respiratory muscles. He pointed out that all four-footed animals used their limb muscles as part of their respiratory mechanism, and as these animals spent the greater part of their lives on their four limbs a complete respiratory mechanism was developed apart from the diaphragmatic. He maintained that cats came into an intermediate class as they had a more important diaphragm from the respiratory point of view.

It was of importance that an altogether extraordinary set of muscles of respiration should not be taken, and the ordinary muscles of respiration ignored. He mentioned that the horse could live and work with his phrenic nerve cut. He could not say what the stimulus was, but there were two possibilities—one being the chemical due to an accumulation of the  $\text{CO}_2$ , and the second that the muscles spent most of their lives preparing to be called into play.

PROFESSOR BARRY, in replying to the remarks, said as to the nature of the stimulus, he believed it to be a mechanical effect, but in many cases the response seemed to be chemical, due to the accumulation of  $\text{CO}_2$  in the lungs.

He thought that no one would deny the existence of ordi-

nary sensory fibres in the lung, and instanced the production of pain by a central pneumonia. This pain was generally believed to pass through the stellate ganglia. He admitted that there was considerable shock following the operation of cutting the spinal cord, and suggested that the shock might account for the lack of response, but he thought that the diagrams shown proved that this definite change brought about by cutting the cord must be due to more than shock. There was always the possibility of afferent fibres in the phrenic, and that diaphragm impressions could never be excluded. Referring to the cervical centres in the cervical spinal cord, it was found that, even with the phrenics cut and the vagi cut, impulses did take place at the centre.

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#### SECTION OF MEDICINE.

President—J. O'CARROLL, M.D., F.R.C.P.I.

Sectional Secretary—F. C. PURSER, M.D., F.R.C.P.I.

*Friday, May 16, 1913.*

DR. H. C. DRURY in the Chair.

##### *Two Unusual Cases of Enteric Fever.*

SIR JOHN MOORE described two cases of enteric fever presenting unusual features. In one the original fever was succeeded by a recrudescence lasting about twenty days. An apyrexial period of eighteen days followed, when a true relapse, lasting a fortnight, set in. Nearly two months later the patient again became feverish, and suffered from catarrhal jaundice. He made a good recovery. There were never serious intestinal symptoms.

The second case was one of protracted course. There were epistaxis and intestinal hæmorrhage. Convalescence was complicated by "typhoid spine." An *x*-ray examination by Dr. W. G. Harvey showed osteo-periostitis of the left side of the third lumbar vertebra, spreading downwards to the fourth lumbar vertebra. [His paper will be found in Vol. cxxxv., page 419.]

DR. DRURY said that the first case illustrated the tendency which there is in light cases of enteric to relapse. The lightness of the cases was shown by the fact that there

was never any hæmorrhage, which suggested that the ulceration was not very deep. He did not suggest that heavy cases did not relapse, but he considered it more likely to occur in the mild cases.

PROFESSOR McWEENEY, referring to the first case, asked if the Widal reaction was done on more than one occasion; as there were three or four distinct relapses it would have been interesting to see if there were any fluctuations in the agglutinating power of the serum. He agreed that the attacks of jaundice were due to infection of the bile passages with *Bacillus typhosus*.

DR. FINNY discussed the question of relapse and how relapses came about. He said that some soldiers who had been inoculated against typhoid had, shortly after inoculation, been exposed to infection and had contracted very severe typhoid. The more recently inoculated cases, in fact, seemed to suffer most. He drew a parallel between this and relapses.

#### *Tests for Liver Function.*

DR. NESBITT gave an account of four tests for liver function which he stated were now in very general use at some of the Continental clinics, and which he considered, from his own experience, would be found of service in the diagnosis of obscure liver disturbances.

Two of them depend on the fact that although considerable tolerance of glucose may exist with even advanced disease of the liver, two other simple sugars—viz., lævulose and galactose—are excreted in the urine in considerable quantity after their administration by the mouth where disturbance of liver function exists.

In the lævulose test 100 grm. of this sugar are given in the morning. Any trace of sugar in the urine indicates liver disorder, but the test will not differentiate the nature.

A serious objection is that the size of the dose is most objectionable, being frequently followed by nausea, vomiting, and diarrhœa, and the further fact that about 10 per cent. of normal cases show some sugar in the urine renders the test unreliable.

The use of galactose in 40 grm. dose forms a much better test. Normal cases excrete sugar for one, or at most two, hours subsequently. Cases with general *cell*, as apart from local lesions, in the liver eliminate sugar for five, six, or more

hours in considerable quantity. The test is, therefore, positive in—*e.g.*, cirrhosis of all varieties, toxic forms of icterus, and parenchymatous degeneration—but negative in local lesions, such as tumours, and in two more or less general conditions—*viz.*, chronic passive congestion and amyloid disease. This test is easily applied, and will be found reliable. A further test, depending on quite a different function of the liver, is the use of amino-acids. 10 gm. of glycocoll are given, and the amino-acid in the urine is estimated by a modification of Henricque's method. No increase over the usual small traces is found where the liver is healthy, but disease of this organ causes the appearance of substantial amounts, even up to 5 gm. The test is rather more troublesome to carry out, but in practice has been found extremely accurate.

The most simple, novel, and reliable of these tests is, however, the "aldehyde reaction." Two drops of Ehrlich's aldehyde solution (a 2 per cent. solution of dimethyl-para-amino-benzaldehyde in 50 per cent. HCl) are added to 5 c.c. of urine. A deep rose-red colour indicates excess of urobilinogen, and, therefore, insufficiency of the liver, which is allowing urobilinogen (formed in the intestines from bilirubin) to pass through into the systemic circulation. Normal cases show only the faintest trace of pink, constituting a negative reaction.

This test has been found very reliable, and is given by any condition of the liver which will derange even a small number of cells, but is most strongly positive in such conditions as chronic congestion, cirrhosis, tumours, degenerations of various forms, syphilis, and amyloid disease. Further, the reaction will be obtained frequently before physical signs of any kind have appeared. Its advantages in cases of this kind will readily suggest themselves.

These tests will doubtless prove of great value to the differential diagnosis of obscure conditions, where there may or may not be reason to suspect the liver, but on account of its extreme simplicity, quickness, and apparent reliability, the aldehyde reaction is quite worth a place in *all* routine examination of the urine.

THE CHAIRMAN thanked Dr. Nesbitt for his paper, and said that anything that helped to the understanding of the chemical composition of the body and its physiological processes was worthy of the best attention of the Academy.



DR. SMITH congratulated Dr. Nesbitt on the trouble he had taken in bringing forward the results of his investigations. He considered that caution should be exercised in drawing any conclusions from risky tests. It would be difficult to exempt any organ in the abdomen—the pancreas for instance—from having shared in the chemical changes. Every one knew that attempts had been made to demonstrate, from experiments on the urine, the existence of pancreatic disease. He, therefore, took exception to the title of the paper, and asked how it could be known that it was the function of the liver and not of the pancreas. He referred to the expense of the experiments, and considered that this would prohibit their use to any large extent. He expressed the hope that sooner or later the organic chemists would elucidate the nomenclature of sugars which was now in such a hopeless state. He was not convinced that the aldehyde test was very important.

PROFESSOR McWEENEY felt that Dr. Nesbitt was going on the right lines. Attacks of the liver are found very difficult to explain, and in order to arrive at a better understanding as to what is going on it would seem desirable to test how the liver performs its functions. With regard to the testing the capacity of the liver to deal with sugars, he remembered the development of this question since Straus brought it forward in 1897, and, so far as he recollected, the best reason for using lævulose as a test of the adequacy of the liver is that lævulose is capable of being used by the liver alone, whereas galactose is capable of being used by the muscles also. The chief reason for using galactose was that the dose was considerably smaller. He submitted that in a severe case of liver inadequacy the sugar appeared earlier in the urine than it did if the liver was not so much out of order. The time of collection of the urine after the administration of the test was, therefore, of importance.

DR. NESBITT, in replying, said he could not state the relationship between the liver function and the pancreas, but if it could be shown that these tests were positive in a number of cases, and it could be demonstrated that in these cases the liver was diseased, something was gained. He submitted that these tests would show whether the liver was normal or not,

# SANITARY AND METEOROLOGICAL NOTES.

## VITAL STATISTICS

*For four weeks ending Saturday, May 17, 1913.*

### IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended May 17, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 18.1 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, May 17, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000 :—

COUNTY BOROUGH, &c.	Week ending				Average Rate for 4 weeks
	April 26	May 3	May 10	May 17	
<b>27 Town Districts</b>	<b>21.3</b>	<b>18.5</b>	<b>19.3</b>	<b>18.1</b>	<b>19.3</b>
Dublin Reg. Area ...	24.5	16.8	20.4	17.9	19.9
Dublin City ... ..	26.9	16.6	23.9	17.4	21.2
Belfast ... ..	20.4	18.7	17.1	18.2	18.6
Cork ... ..	23.8	26.5	23.8	21.1	23.8
Londonderry ... ..	17.8	16.5	5.1	14.0	13.4
Limerick ... ..	16.2	14.9	24.4	9.5	16.3
Waterford ... ..	17.1	17.1	20.9	20.9	19.0

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, May 17, 1913, were equal to an annual rate of 1.4 per 1,000. Among the 138 deaths from all causes

for Belfast are one from measles, one from enteric fever, 4 from scarlet fever, 3 from diarrhoeal diseases, and one from diphtheria. One of the 31 deaths from all causes for Cork is from measles. One death from enteric fever is included in the 7 deaths from all causes for Limerick. One of the 11 deaths for Waterford is from whooping-cough. Of the 4 deaths from all causes for Lisburn one is from measles. Among the 9 deaths from all causes for Newry is one from measles. Five deaths from measles are among the 13 deaths from all causes for Wexford, and the 4 deaths from all causes for Kilkenny include one from enteric fever.

### DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 403,000; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended May 17 amounted to 200—111 boys and 89 girls—and the deaths to 151—81 males and 70 females.

### DEATHS.

The registered deaths, omitting the deaths (numbering 13) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 17.9 per 1,000 of the population. During the twenty weeks ending with Saturday, May 17, the death-rate averaged 22.4, and was 2.2 below the mean rate for the corresponding portions of the 10 years 1903–1912.

The total deaths registered, numbering 151, represent an annual rate of 19.5 per 1,000. The annual rate for the past twenty weeks was 23.9 per 1,000, and the average annual rate for the corresponding periods of the past ten years was 25.8 per 1,000 of the mean population for all deaths registered.

The total deaths from all causes included 1 from diphtheria, 1 from measles, 2 from influenza, 3 from whooping-cough, and 5 deaths of children under two years of age from diarrhoea and enteritis.

In each of the three preceding weeks, deaths from diphtheria

were one, 2, and 0; deaths from influenza were 7, 2, and 2; deaths from measles were 0, 0, and 0; deaths from whooping-cough were 2, one, and one; and deaths of children under two years of age from diarrhœa and enteritis were 5, 3, and 3, respectively.

There were 33 deaths from tuberculous disease. This number includes 23 deaths from pulmonary tuberculosis, 3 from tubercular meningitis, 3 from abdominal tuberculosis, one from tuberculosis of a joint, and 3 deaths from disseminated tuberculosis. In each of the three preceding weeks deaths from tuberculous disease numbered 42, 29, and 34.

Of 12 deaths from pneumonia, broncho-pneumonia caused 6 deaths, lobar pneumonia one death, and pneumonia (type not distinguished) caused 5 deaths.

Organic diseases of the heart caused the deaths of 12 persons, and 16 deaths from bronchitis were recorded.

Six deaths were caused by cancer.

The deaths of 2 infants under one year of age were caused by convulsions, that of one from a congenital malformation, those of 5 infants by congenital debility, and those of 3 through premature birth.

There were 3 accidental deaths, of which 2 were by vehicles and horses.

In 2 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases comprise the deaths of 2 infants under one year of age.

Thirty-seven of the persons whose deaths were registered during the week ended May 17, were under 5 years of age (25 being infants under one year, of whom 6 were under one month old), and 34 were aged 65 years and upwards, including 28 persons aged 70 and upwards. Among the latter were 16 aged 75 years and upwards, of whom one (a female) was stated to have been aged 94 years.

#### STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished

by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended May 17, 1913, and during each of the preceding three weeks. An asterisk (\*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epi- demic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) <i>a</i>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis ( <i>Phtisis</i> ).	Acute Polio- myelitis	Total
City of Dublin	April 26	*	*	18	3	-	10	-	-	1	2	-	*	-	22	-	56
	May 3	*	*	13	4	-	6	-	-	3	5	1	*	-	18	-	52
	May 10	*	*	15	-	-	23	-	1	6	3	-	*	-	12	-	66
	May 17	*	*	18	-	-	9	-	-	-	3	-	*	-	17	-	47
Rathmines and Rathgar Urban District	April 26	*	*	-	-	-	1	-	-	1	-	-	*	*	*	*	2
	May 3	*	*	1	-	-	5	-	-	1	-	-	*	*	*	*	7
	May 10	*	*	2	-	-	1	-	-	-	-	-	*	*	*	*	3
	May 17	*	*	2	-	-	3	-	-	-	-	-	*	*	*	*	5
Pembroke Urban District	April 26	2	-	1	-	-	2	-	-	-	-	-	-	*	-	*	5
	May 3	5	-	1	-	-	1	-	-	-	-	-	1	*	2	*	10
	May 10	4	-	-	-	-	1	-	-	-	-	-	1	*	-	*	6
	May 17	13	-	-	-	-	-	-	-	-	-	-	4	*	-	*	17
Blackrock Urban District	April 26	*	*	-	-	-	1	-	-	-	-	-	*	-	*	*	1
	May 3	*	*	-	-	-	-	-	-	-	-	-	*	-	*	*	-
	May 10	*	*	-	-	-	-	-	-	-	-	-	*	-	*	*	-
	May 17	*	*	-	-	-	-	-	-	-	-	-	*	-	*	*	-
Kingstown Urban District	April 26	*	*	-	-	-	-	-	-	1	-	-	*	*	-	*	1
	May 3	*	*	1	-	-	-	-	-	-	-	-	*	*	-	*	1
	May 10	*	*	-	-	-	1	-	-	-	-	-	*	*	1	*	2
	May 17	*	*	-	-	-	1	-	-	-	-	-	*	*	-	*	1
City of Belfast	April 26	*	*	30	-	-	4	-	1	8	3	2	*	*	22	*	70
	May 3	*	*	46	-	-	8	-	1	9	8	-	*	*	14	*	86
	May 10	*	*	57	-	-	5	-	-	3	2	-	*	*	8	*	75
	May 17	*	*	37	-	-	4	-	-	1	4	1	*	*	4	*	51

*a* Continued Fever.

### CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended May 17, 1913, 9 cases of measles were admitted to hospital, 11 were discharged, and 20 cases

remained under treatment at the close of the week. In the three preceding weeks such cases were 16, 15, and 22 respectively.

Twelve cases of scarlet fever were admitted to hospital, 21 were discharged, and 90 cases remained under treatment at the close of the week. This number is exclusive of 19 convalescent patients who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the three preceding weeks the cases in hospital were 87, 88, and 99 respectively.

Eight cases of diphtheria were admitted to hospital, 7 were discharged, and there was one death. The cases in hospital, which at the close of the three preceding weeks numbered 66, 60, and 58 respectively, were 58 at the close of the week.

One case of enteric fever was admitted to hospital, 4 were discharged, and 19 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks being 27, 24, and 22.

One case of typhus was discharged from hospital during the week, and 10 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 8 cases of pneumonia were admitted to hospital, 9 were discharged, there were 2 deaths, and 18 cases remained under treatment at the end of the week.

#### ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, May 17, in 96 large English towns (including London, in which the rate was 12.0) was equal to an average annual death-rate of 12.8 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 16.4 per 1,000, the rate for Glasgow being 17.4, and that for Edinburgh 13.2.

#### INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended May 17. From this report it appears that of a total of 45 cases notified, 21 were of phthisis, 12 of scarlet fever, 7 of diphtheria, one of erysipelas,

and 4 of enteric fever. Among the 351 cases of infectious diseases in hospital at the close of the week were 100 cases of scarlet fever, 111 of phthisis, 49 of measles, 42 of whooping-cough, 25 of diphtheria, 2 of erysipelas, 8 of chicken-pox, and 6 of enteric fever.

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#### METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of May, 1913.*

Mean Height of Barometer,	-	-	-	29.859 inches.
Maximal Height of Barometer (14th, at 9 p.m.),	30.332	„		
Minimal Height of Barometer (8th, at 1 p.m.),	29.063	„		
Mean Dry-bulb Temperature,	-	-	-	51.5°.
Mean Wet-Bulb Temperature,-	-	-	-	48.2°.
Mean Dew-point Temperature,	-	-	-	44.8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.303	inch.		
Mean Humidity,	-	-	-	78.9 per cent.
Highest Temperature in Shade (on 24th),	-	67.2°.		
Lowest Temperature in Shade (on 4th and 7th),	38.2°.			
Lowest Temperature on Grass (Radiation) (7th),	34.9°.			
Mean Amount of Cloud,	-	-	-	58.9 per cent.
Rainfall (on 17 days)	-	-	-	2.802 inches.
Greatest Daily Rainfall (on 5th),	-	-	-	.668 inch.
General Directions of Wind,	-	-	-	W., S.W.

#### *Remarks.*

The early part of May was unsettled, cold and rainy or showery. In the week ended Saturday, the 10th, the sky was much clouded, rain fell frequently, thunder and hail showers being reported from time to time in many districts. On the 11th the thermometer ran up to 63.1° in Dublin, but the next day was dreary and wet, with easterly winds and the thermometer ranging only from 48.2° to 51.3°. After this the weather improved, remaining chiefly fine until the 21st, on which day hail fell heavily in Dublin, and thunder and lightning occurred in several places. On the 24th a spell of hot weather set in over the south of Ireland, and even in Dublin the thermometer rose to 67.2° in the screen—the highest reading for the month. At Greenwich the thermometer rose in the shade to 75° on the day named, 78° being reached at Camden Square, London, N.W. The readings at these stations during the

following days were unusually high for May—namely, Greenwich—81°, 84°, 84°, 81°, 81°, 80°; Camden Square—82°, 84°, 84°, 82°, 83°, 80°. On Saturday, the 31st, a brisk dip in temperature was observed in the London area, for the maximum was only 63° at Greenwich and 66° at Camden Square. Dublin almost escaped the electrical disturbances of the month, but in the south of England there were severe storms on the 27th, and in the course of the night of the 29th.

In Dublin the arithmetical mean temperature (52.3°) was 0.1° above the average (52.2°). The mean dry-bulb readings at 9 a.m. and 9 p.m. were 51.5°. In the forty-eight years ending with 1913, May was coldest in 1869 (M. T. = 48.2°), and warmest in 1893 (M. T. = 56.7°). In 1911 the M. T. was 55.3°, and in 1912, 53.5°.

The mean height of the barometer was 29.859 inches, or 0.130 inch below the corrected average value for May—namely, 29.989 inches. The mercury rose to 30.332 inches at 9 p.m. of the 14th, and fell to 29.063 inches at 1 p.m. of the 8th. The observed range of atmospheric pressure was, therefore, 1.269 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 51.5°, or 5.0° above the value for April, 1913—46.5°. Using the formula  $\text{Mean Temp.} = \text{Min.} + (\text{Max.} - \text{Min.}) \times .47$ , the value is 52.0°, or 0.2° above the average mean temperature for May, calculated in the same way, in the thirty-five years, 1871–1905, inclusive, (51.8°). The arithmetical mean of the maximal and minimal readings was 52.3°, compared with a thirty-five years' average of 52.2°. On the 24th the thermometer in the screen rose to 67.2°—wind, W; on the 4th the temperature fell to 38.2°—wind, N.N.W. The same reading was recorded on the 7th, wind, S.S.E. The minimum on the grass was 34.9° on the 7th.

The rainfall amounted to 2.802 inches, distributed over 17 days. The average rainfall for May in the thirty-five years, 1871–1905, inclusive, was 1.970 inches, and the average number of rain-days was 15. The rainfall therefore was considerably above the average, while the rain-days were 2 in excess. In 1886 the rainfall in May was very large—5.472 inches on 21 days; in 1869, also, 5.414 inches fell on 19 days. On the other hand, in 1895, only .177 inch was measured on but 3 days.



In 1896 the fall was only .190 inch on 7 days. In 1911, 1.286 inches fell on 10 days ; in 1912, 1.042 inches on 19 days.

A lunar corona appeared on the 11th. High winds were noted on 6 days, including a gale on the 30th. Hail fell on the 21st. Thunder was heard on the 1st.

The mean minimal temperature on the grass was  $43.4^{\circ}$ , compared with  $44.5^{\circ}$  in 1912,  $46.2^{\circ}$  in 1911,  $42.0^{\circ}$  in 1910,  $41.9^{\circ}$  in 1909,  $45.2^{\circ}$  in 1908,  $41.6^{\circ}$  in 1907,  $41.9^{\circ}$  in 1906,  $42.5^{\circ}$  in 1905,  $42.6^{\circ}$  in 1904,  $44.3^{\circ}$  in 1903,  $40.3^{\circ}$  in 1902,  $41.7^{\circ}$  in 1901, and  $37.6^{\circ}$  in 1894. The maximum fell short of  $50^{\circ}$  on the 6th ( $46.2^{\circ}$ ). The absolute maximum was  $67.2^{\circ}$  on the 24th.

The rainfall in Dublin during the five months ended May 31st amounted to 13.899 inches on 91 days, compared with 11.161 inches on 87 days in 1912, 5.986 inches on 69 days in 1911, 12.421 inches on 92 days in 1910, 10.098 inches on 75 days in 1909, 10.078 inches on 95 days in 1908, 9.499 inches on 81 days in 1907, 11.592 inches on 97 days in 1906, 9.026 inches on 81 days in 1905, 11.741 inches on 92 days in 1904, 12.560 inches on 95 days in 1903, 9.973 inches on 81 days in 1902, 7.724 inches on 67 days in 1901, 5.971 inches on 70 days in 1896, and a thirty-five years' average of 10,040 inches on 81 days.

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At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, returns the arithmetical mean temperature as  $51.8^{\circ}$ , the mean dry-bulb reading at 9 a.m. and 9 p.m. being  $52.1^{\circ}$ . Rain fell on 13 days to the amount of 2.71 inches, .69 inch being measured on the 5th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 159.2, giving a daily average of 5.1 hours. The corresponding figures for May, 1904, were 192.5 hours and 6.2 hours ; for 1905, 215.7 hours and 7.0 hours ; for 1906, 132.5 hours and 4.3 hours ; for 1907, 173.0 hours and 5.6 hours ; for 1908, 193.9 hours and 6.3 hours ; for 1909, 231.5 hours and 7.5 hours ; for 1910, 175.5 hours and 5.7 hours ; for 1911, 214.0 hours and 6.9 hours, and for 1912, 157.8 hours and 5.1 hours respectively. The mean earth-temperature at 9 a.m. was  $52.3^{\circ}$  at a depth of one foot below the surface,  $49.7^{\circ}$  at 4 feet. The corresponding values for 1912 were  $54.5^{\circ}$  and  $51.7^{\circ}$  ; for 1911,  $54.6^{\circ}$  and  $51.0^{\circ}$  ; for 1910,  $54.7^{\circ}$  and  $49.3^{\circ}$ , and for 1909,  $52.3^{\circ}$  and  $50.0^{\circ}$ . The lowest temperature on

the grass (terrestrial radiation) was  $29.0^{\circ}$  on the 7th. The highest temperature in the shade was  $68^{\circ}$  on the 24th; the lowest was  $36.0^{\circ}$  on the 7th.

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Captain Edward Taylor, D.L., returns the rainfall at Ardgillan, Balbriggan, Co. Dublin, as having been 3.04 inches on 18 days; the largest fall in one day was .88 inch on the 5th. The rainfall was 1.16 inches above the average, the rain-days were 5 in excess. Since January 1, 14.13 inches of rain have fallen at that station on 88 days, this measurement being 3.90 inches above the average and the rain-days being 9 in excess. The shade temperature ranged from  $67.9^{\circ}$  on the 24th to  $35.3^{\circ}$  on the 5th.

Mr. T. Bateman returns the rainfall at The Green, Malahide, Co. Dublin, at 3.065 inches on 13 days. The greatest rainfall in 24 hours was .77 inch on the 5th. The extremes of temperature in the shade were—highest,  $71^{\circ}$  on the 25th; lowest,  $33^{\circ}$  on the 4th. The mean temperature was  $50.3^{\circ}$ .

At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 16 days to the amount of 3.005 inches, the largest measurement in 24 hours being .770 inch on the 5th. The total amount of sunshine was 150.0 hours, the most in one day being 12.7 hours on the 18th.

Dr. C. Joynt, F.R.C.P.I., returns the rainfall at 21 Leeson Park, Dublin, at 2.765 inches on 16 days, .625 inch being measured on the 5th.

At Cheeverstown Convalescent Home for Little Children of the Poor, Clondalkin, Co. Dublin, Miss C. Violet Kirkpatrick recorded a rainfall of 4.13 inches on 17 days, the maximal fall in 24 hours being .90 inch on the 8th.

Dr. Arthur S. Goff returns the rainfall at Belfort House, Dundrum, Co. Dublin, at 3.49 inches on 14 days. The greatest daily measurement was .65 inch on the 7th. The temperature in the shade ranged from  $70^{\circ}$  on the 24th to  $38^{\circ}$  on the 4th and 7th. The mean temperature of the month was  $53.0^{\circ}$ , compared with  $54.8^{\circ}$  in 1912,  $55.6^{\circ}$  in 1911,  $52.4^{\circ}$  in 1910,  $53.6^{\circ}$  in 1909,  $56.2^{\circ}$  in 1908,  $51.1^{\circ}$  in 1907,  $51.8^{\circ}$  in 1906,  $54.5^{\circ}$  in 1905,  $53.3^{\circ}$  in 1904,  $53.1^{\circ}$  in 1903,  $50.5^{\circ}$  in 1902, and  $52.6^{\circ}$  in 1901. Hail fell on the 6th.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson measured 3.42 inches of rain on 14 days, the

greatest fall in 24 hours being .72 inch on the 12th. The mean temperature was  $52.1^{\circ}$ , the extremes being—highest,  $70^{\circ}$  on the 24th; lowest,  $38^{\circ}$  on the 4th.

At the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, Dr. A. J. Blake, the Resident Medical Superintendent, reports a rainfall of 4.10 inches on 18 days. The largest measurement in 24 hours was 1.08 inches on the 7th.

Mr. W. McCabe, the observer for the Right Hon. L. A. Waldron, reports that the rainfall at Marino, Killiney, Co. Dublin, was 2.46 inches on 14 days, .54 inch being measured on the 5th. The average rainfall in May at Cloneevin, Killiney, in the 24 years, 1885–1908, inclusive, was 2.136 inches on 13.8 days.

At Coolagad, Greystones, Co. Wicklow, the rainfall measured by Dr. J. H. Armstrong was 3.64 inches on 17 days, .96 inch falling between the hours of 6 45 p.m. of the 5th and 9 a.m. of the 6th. The total fall since January 1st, 1913, equals 21.68 inches on 95 days. Thunder was heard on the 1st, 21st and 31st.

Mrs. Sydney O'Sullivan measured 3.29 inches of rain on 16 days at Auburn, Greystones, Co. Wicklow. The heaviest fall in 24 hours was .93 inch on the 5th. Distant thunder was heard on the 28th. Hail fell on the 31st.

Dr. Charles D. Hanan, M.B., reports that the rainfall at the Royal National Hospital for Consumption, Newcastle, Co. Wicklow, was 4.70 inches on 16 days, the greatest fall in 24 hours being 1.15 inches on the 5th. The screened thermometers ranged from  $36^{\circ}$  on the 7th to  $67^{\circ}$  on the 24th. The mean temperature was  $49.4^{\circ}$ , the mean maximum being  $55.6^{\circ}$ , and the mean minimum  $43.9^{\circ}$ .

The Rev. Arthur Wilson, M.A., writing from Dunmanway Rectory, Co. Cork, states that 5.55 inches of rain fell there on 22 days, 1.34 inches being measured on the 7th. The rainfall was 1.97 inches over the average (3.58 inches). At Dunmanway other heavy falls were .75 inch on the 8th and .55 inch on the 11th. The first 11 days were very unsettled and cold, during which 4.36 inches fell. The rest of the month was fine and warm, with the exception of the 29th and 30th, which were wet. It was very warm on the 26th, 27th and 31st, and warm also from 12th to the 16th. The rainfall for the 5 completed months of 1913 was 35.16 inches or 11.73 inches more than the average (23.43 inches) for the last eight years.

## PERISCOPE.

“THE LAW RELATING TO PUBLIC HEALTH IN IRELAND.”

UNDER this title Messrs. E. Ponsonby, Ltd., 116 Grafton Street, Dublin, have just published the second edition of Dr. George T. B. Vanston's well-known Code of Public Health, which for more than twenty years has been a standard work on the subject in both legal and medical circles. The author is singularly well equipped for the task he has undertaken. A sometime Scholar of the House and a double Senior Moderator, a Master of Arts, and Doctor of Laws of the University of Dublin, one of His Majesty's Counsel and Legal Adviser to the Local Government Board of Ireland, Dr. Vanston has been enabled to produce a work which is a credit alike to himself, his Alma Mater, and the great profession which he adorns. We hope to review the book (which runs to over 1,400 royal octavo pages) in the August number of this journal.

### LITERARY NOTES.

MESSRS. SMITH, ELDER & Co. published on June 26 a work by Dr. W. McC. Wanklyn—who was formerly Medical Superintendent of the Small-pox Receiving Stations and River Ambulance Service of the Metropolitan Asylums Board, and is now an Assistant Medical Officer of the London County Council”—entitled “How to Diagnose Small-pox.” The work is based on an experience of small-pox extending over twenty years, and including the revision of the diagnosis of upwards of 10,000 cases. It is intended for the busy practitioner and those who are not well versed in this disease. It is written in a clear and easy style, and deals with the subject in a practical manner. The work should be of special assistance in removing the doubts and difficulties which surround this thorny subject.

MR. H. K. LEWIS informs us that Mr. Louis B. Rawling's popular “Landmarks and Surface markings of the Human Body” has been adopted as the text-book at the McGill University, Montreal; Queen's University, Kingston; Toronto University, Toronto; and the Western University, London, Ont.

# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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AUGUST 1, 1913.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. IV.—*Clinical Report of the Rotunda Hospital for One Year, November 1st, 1911, to October 31st, 1912.*<sup>a</sup>  
By HENRY JELLETT, M.D. (Dubl. Univ.), F.R.C.P.I.,  
Master; and DAVID G. MADILL, M.B. (Dubl. Univ.),  
and R. MARSHALL ALLAN, M.B. (Edin. Univ.), Assistant Masters.

(Continued from page 19.)

#### GYNÆCOLOGICAL REPORT.

DURING the year, 587 patients were admitted to the Gynæcological Department—a slightly smaller number than those admitted in the preceding year. There were 479 operations performed, and the total mortality was nine—i.e., 1.53 per cent. Of the nine deaths one occurred the day after admission of a patient who was sent into the Hospital with an incarcerated myoma, which had been causing retention of urine for a considerable time. The inside of the bladder was gangrenous, the urine black and foul smelling, and the patient was

<sup>a</sup> Read in the Section of Obstetrics of the Royal Academy of Medicine in Ireland on Friday, April 18, 1913. [For the discussion on this Report see page 58 of the July number of this Journal.]

in a condition of general poisoning. One death occurred of a patient operated on for papilloma of the ovary, owing to recurrence of the disease. One death was of a patient suffering from carcinoma of the pylorus with a large abdominal tumour, in whose case operation had to be abandoned. One death was in a case of sarcoma of the uterus, in which an extensive resection of the small intestine had to be carried out. One death occurred immediately after operation for what subsequently proved to be chorion-epithelioma involving the pelvis. One death occurred from heart failure a couple of days before the patient was to leave hospital after an operation for uterine prolapse, in which the interposition operation was abandoned on account of abnormal adhesions between the bladder and the uterus, and in which colpo-perinæorrhaphy alone was done. One death was from acute general peritonitis after an operation for tuberculous appendages. One death was of a patient who was admitted seven months pregnant, with high temperature and rapid pulse, who became jaundiced with total suppression of urine. Her case is referred to later.

The number of major operations has been considerable. Hysterectomy for malignant disease is almost the only one in which the figures are lower than for the previous year. Wertheim's operation was performed only five times, while eight cases of cancer were sent out without operation. This does not mean that I operated only on early cases of uterine cancer. I have operated on all cases which I thought afforded any prospect of relief, but most of those we saw during the past year have been characterised by their advanced nature, and in those in which operation was not performed the disease was so extensive as entirely to prevent any operative measures. On the other hand, the number of operations for myomata is considerable. There were fifteen hysterectomies, all of which were supra-vaginal, and twenty-four myomectomies. It is noteworthy in what a large proportion of cases it was found possible to save the uterus. All these cases—both hysterectomy and myomectomy—recovered.

Twenty-five operations were performed for prolapse. In the treatment of this condition I have followed the same lines as previously—that is to say, I have tried to discover the nature of the lesions present, and then to deal with each. Wertheim's interposition operation was done in eighteen cases. My own operation for shortening of the utero-sacral ligaments was done in thirteen cases, in six of which the interposition operation was also performed. In one case I did a reversed Wertheim operation, bringing down the body of the uterus posteriorly between the vaginal mucous membrane and the rectum. I did this because there was a very large rectocele, and there were no muscles in the pelvic floor that could be brought together to re-form the perineum. Consequently I saw no other way of curing the rectocele. The operation appeared to be successful in so far as the keeping up of the rectum was concerned, but I was not greatly pleased with the result otherwise. I think it is calculated to cause too abnormal a position of the uterus. I have made several efforts to see the patient now that some time has elapsed since the operation, but I have not been able to do so, so that I can give no opinion as to its ultimate results. Prolapse of the cervical stump after a hysterectomy is a complication which is very difficult to treat. One such case came under treatment, in which supra-vaginal hysterectomy had been done some years before, and, as the woman at the time suffered from prolapse, the operator had fixed the upper portion of the stump to the abdominal wall, doing, in fact, a ventral cervical fixation. Under the strain of the prolapsing vagina, however, the stump elongated, until eventually, although it remained fixed above, it projected almost through the vulva below. In this case I operated as follows:—I first freed the stump from the abdominal wall through an anterior colpotomy opening, and then carried out an interposition operation, exactly as if the stump was the body of the uterus. This, however, gave no support to the upper portion of the stump, as all ligaments were gone, and there was no

possibility of obtaining support from them. The patient also had a ventral hernia, and so, at the second stage of the operation I cured this hernia, and at the same time I made an opening into the posterior vaginal fornix from above, and pulled up into the abdomen the vaginal portion of the cervix. I excised the mucous membrane of the cervical canal, and then tried to fasten the stump to the fascia lying over the sacral vertebræ, as is sometimes done in cases of rectal prolapse. Unfortunately, however, the stump was not long enough to reach so high, and so I found the remains of the round ligaments and sutured them firmly to it. At the first operation I also did as extensive a perinæorrhaphy as possible. The immediate results of the operation were satisfactory, but I have not seen the patient since, so cannot state what its later results have been.

I wish now to refer more particularly to four cases of special interest that occurred during the year.

CASE I.—M. G., aged thirty-three, was admitted to the Maternity Wards on March 24th. She was in her fourth pregnancy, and at about the seventh month. She gave a history of vomiting for the past three days, with severe pain in the right side for the past week. On admission, her temperature was normal, but her pulse was 140. She was very constipated, and complained of pain in the region of the appendix. As it was thought that she was probably suffering from some trouble in the appendix, she was transferred to the Gynæcological Wards. The urine contained albumen, granular casts, and red blood corpuscles. Action of the bowels was obtained by means of enemata and purgatives. The next day her temperature rose to 101° F., while her pulse dropped to 120. There was a definite area of tenderness and fulness to be made out on the right side of the abdomen. Mr. Heuston kindly saw the case with me, and made a provisional diagnosis of an appendicular abscess. He accordingly opened the abdomen the same evening on account of the rising temperature. There was considerable difficulty in finding the appendix owing to the displacement of the cæcum by the pregnant uterus, and, when it was found, there was no abscess near it. The appendix was normal in



length and thickness, and was slightly kinked. It was removed in the ordinary manner. The patient vomited somewhat after the anæsthetic, but the vomiting ceased the following morning. The next day calomel was given in grain doses, and the bowels moved slightly three times. The next morning the patient was jaundiced, the colour being especially noticeable in the conjunctivæ, and after mid-day there was almost total suppression of urine. At the same time her temperature became sub-normal, while the pulse was 120, and the respirations 36. Later in the evening the pulse became very rapid and weak. Sub-mammary injections of saline solution were given, and diuretics by the mouth. The patient passed only an ounce and a half of urine during the night. She became very restless, and towards morning became comatose, and died at 8 a.m.

The *post mortem* examination revealed an abscess in the right kidney, and another of smaller size in the left kidney. The infecting organism was the *Staphylococcus aureus*.

This case is particularly interesting on account of the impossibility of making an exact diagnosis during life. There was nothing definitely suggesting such a condition as abscess of the kidneys. Any special symptoms pointed to the appendix, or possibly to a septic peritonitis, and yet, at the operation, there was no evidence of trouble in the one or of the presence of the other.

CASE II.—*Chorion-epithelioma with Extensive Involvement of the Pelvic Cavity*.—C. McC., aged thirty-five, was admitted to the Hospital on the 22nd of August. She stated that she had been married for four years, and had had three children at full term, the last pregnancy being a year ago. She complained of swelling of, and severe pain in, the abdomen. The latter began about three weeks ago, and about the same time she first noticed the swelling. Menstruation was irregular. When it occurred it lasted for six days, and was heavy in amount, with some pain. The last regular menstruation was six weeks ago, and since then she had had some blood-stained discharge. On examination, a tumour was found lying behind the uterus. It filled Douglas' pouch, and extended some way above the brim of the pelvis, and was soft in consistency. A few days later

the abdomen was opened. The omentum was found to cover a dark tumour, resembling blood-clot, about the size of an ostrich egg. The tumour contained dark, bloody fluid. It was exceedingly friable, and was situated behind the uterus, extending somewhat above the promontory of the sacrum. It was adherent to the uterus, intestines, and retro-peritoneal tissue. It extended round the right ureter and right uterine artery, which appeared as if they had been dissected out by it. The intestine was nearly perforated at one spot. The right tube and ovary were involved in the tumour. I thought that I was dealing with an old pelvic hæmatocele, which was partly intra- and partly extra-peritoneal and in that belief I tried to remove the mass. As I have mentioned, it was very friable, and it bled freely wherever it was separated. I removed as much of it as I could, and then, failing to check the hæmorrhage in other ways, I tried to plug Douglas' pouch tightly with iodoform gauze. The bleeding, however, continued, and the patient died a few minutes after the operation was over. I regret to say that even during the operation I had no suspicion of the kind of case with which I was dealing, and thought all along that it was one of pelvic hæmatocele. Consequently, I did not ask for a *post-mortem* examination, and it was only some days later, when I received the report of the pieces of tumour that I had removed, that I learnt the nature of the case. I especially regret the omission of the *post-mortem* examination, as I am consequently unable to state what was the condition of the uterus. Dr. Rowlette's report of the fragments removed is as follows:—

“The fragments consisted of clot mixed with friable tissue, and, under the microscope, masses of syncytial tissue were seen, some of which were very degenerate.”

It is interesting to note that there were no pulmonary complications present in this case, although it was apparently of some standing.

CASES III. and IV.—*Two Cases of Ruptured Uterus.*—Two patients, both of whom were suffering on admission from rupture of the uterus, were sent into Hospital by outside practitioners in October. At the time I was laid up, and off duty, and they were both seen and operated upon by my assistant, Dr. Madill.

The first case—J. W., aged thirty-four—was in her sixth pregnancy. It was stated that the uterus had ruptured about seven hours after labour began. On admission it was found that the child had escaped into the abdominal cavity with the exception of the head, which was still in the uterus. Dr. Madill opened the abdomen in the middle line. He removed the foetus and placenta, and then performed a supra-vaginal hysterectomy. In spite of the serious condition in which the patient was on admission she rallied well from the operation, and was discharged cured a month later.

The second case—M. D., aged thirty-two—was admitted to the Hospital a few days later. It was evident from her history that she had been for several days in labour, and she was in a much more serious condition on admission than was the first patient. She was stated to have had pain for a fortnight prior to admission, during which time she had had almost no sleep. On the morning just prior to her being sent to Hospital the forceps was applied three times, but failed to effect delivery. On examination of the abdomen the foetus was found to be in the abdominal cavity, while, through the vagina, the head could be felt presenting. It was large, and its bones overlapping. Subsequently it proved to be hydrocephalic. The condition of the patient was so very bad that both Dr. Madill and Dr. Purefoy, who also kindly saw the case, hesitated to operate, and waited for a little in the hope that the patient's condition might slightly improve. Later in the day—as a last chance—the abdomen was opened. A good deal of free blood was found in the peritoneal cavity, and the foetus and the placenta were both outside the uterus. They were removed, and a supra-vaginal hysterectomy performed with as little delay as possible. The patient, however, died just as the operation was complete.

Dr. Madill has published the notes of these two cases, and they will be found in the "Transactions" of the Royal Academy of Medicine in Ireland.

Three or four years ago I showed at the Obstetrical Section of the Academy a patient on whom I had performed a plastic operation for the cure of pendulous abdomen, the result of over-stretching of the fascia and separation of the recti muscles during pregnancy. I operated on this patient by a method of my own, and sub-

sequently she became pregnant and went to full term, and was confined at the Rotunda Hospital without any overstretching or yielding of the abdominal wall.

During the past year I have operated on four more cases, making a total in all of some six or seven, and so I think it is worth referring to the operation in this Report. Although I evolved its steps for myself, I have since found that it must be considered as based on Blake's modification of Mayo's operation for umbilical hernia. I am not aware however, that any one has adopted a similar procedure for the cure of pendulous abdomen. I hope at a later time to describe the operation more fully in a special paper. Here, I will merely say that its steps are as follows :—

*First*, the excision of an oval piece of skin extending from a little below the ensiform cartilage to a little above the symphysis. The width of the piece removed depends on the amount of redundant skin.

*Secondly*, a vertical incision through the whole length of the exposed fascia into the peritoneal cavity.

*Thirdly*, the suture of the edge of the conjoined fascia and peritoneum on the left side to the peritoneum at the opposite side, outside the belly of the rectus muscle in such a manner that the left fascia lies under the right muscle.

*Fourthly*, the opening of the entire length of the sheath of the rectus muscle on the left side. This opening is made through the anterior layer.

*Fifthly*, the opening of the entire length of the sheath of the rectus muscle on the right side. This opening is made through the posterior layer.

*Sixthly*, the suture of the bellies of the recti muscles thus exposed to one another. This suture also includes the anterior edges of the opening in their respective sheaths.

*Seventhly*, the suture of the edge of the fascia on the right side to the fascia on the left side outside the left rectus muscle in such a way that the right fascia covers over the left muscle.

*Lastly*, the closure of the incision in the skin.

I have had uniformly successful results from this procedure, and as pendulous abdomen with marked protrusion of the intestines and general lowering of intra-abdominal tension is a very serious cause of ill-health in women I think that it is one that is worthy of attention.

## STATISTICS OF THE GYNÆCOLOGICAL DEPARTMENT.

TABLE NO. I.—*Number of Admissions and of Operations.*

Number of Admissions	-	-	-	-	587
„ Operations -	-	-	-	-	479

TABLE NO. II.—*Nature and Number of Operations.*

<b>VULVA AND PERINEUM—</b>		<b>UTERUS—con.</b>	
Removal of polypus -	1	Vaginal shortening of utero-sacral ligaments -	13
Extirpation of vulva for carcinoma -	1	Vaginal fixation round ligaments -	1
Removal of Bartholin's cyst	6	Interposition of uterus -	18
Perinæorrhaphy—		Reversed interposition of uterus -	1
Complete -	12	Ventral suspension—	
Incomplete -	80	Alone -	17
<b>URETHRA—</b>		Combined with other operations -	98
Excision of caruncle -	3	Extra-peritoneal shortening round ligaments -	85
<b>VAGINA—</b>		Intra-peritoneal shortening round ligaments -	1
Anterior Colporrhaphy -	1	Gilliam's operation -	4
Posterior colpotomy -	6	Anchoring cervical stump to round ligaments -	1
Excision of vaginal cyst -	1	Myomectomy—	
Vesico-vaginal fistula -	4	Abdominal -	24
Recto-vaginal fistula -	2	Vaginal -	1
<b>RECTUM—</b>		Hysterectomy—	
Excision of hæmorrhoids -	2	Abdominal—	
<b>CERVIX—</b>		Supra-vaginal -	24
Trachelorrhaphy -	14	Complete -	2
Amputation -	97	Wertheim -	5
Posterior division -	5	Vaginal -	1
<b>UTERUS—</b>		<b>TUBES AND OVARIES—</b>	
Curettage—		Ovariectomy -	23
Alone -	98	Resection of ovary with other operations -	30
Combined with other operations -	170	Salpingostomy -	9
Removal of polypus (benign)	8		

TABLE NO. II.—*continued.*

TUBES AND OVARIES— <i>con.</i>		MISCELLANEOUS—	
Resection of tube with other operations	- 4	Appendicectomy, associated with other operations	- 8
Salpingectomy—		Herniotomy—	
Single	- 27	Umbilical	- 2
Double	- 2	Ventral	- 1
Salpingo-oöphorectomy (alone)—		Plastic operation for pendulous abdomen	- 4
Single	- 1	Resection of intestine	- 2
Double	- 2	Mastitis	- 2
Salpingo-oöphorectomy, with other operations—		Scraping abdominal sinus	- 2
Single	- 1	Mortality	- 9
Double (omitting hysterectomies)	- 4	Percentage	- 1.53
Tubal pregnancy	- 5	Average	- 1 in 65.22
Removal parovarian cyst	- 3		

TABLE NO. III.—*Nature and Number of Cases Treated without Operation.*

No treatment indicated	- 32	Vaginitis	- 4
Refused treatment	- 30	Vulvitis	- 1
Pregnancy	- 15	Pelvic cellulitis	- 1
Operation contra-indicated by general health	- 7	Atrophic uterus	- 1
Cystitis	- 3	Inoperable malignant disease	- 8
Displacement treated by pessary	- 4	Rectal carcinoma	- 1
Ascites	- 1		—
		Total	- 108

## THE STANDARD OF MORBIDITY.

The following is the definition of morbidity as laid down by a Special Committee of the British Medical Association :—“ A temperature is to be regarded as morbid which reaches 100° F. on any two occasions between the beginning of the second and the end of the eighth day. All

deaths are to be included as morbid, irrespective of temperature; and, as some maternity hospitals do not admit abortions, these, for the sake of uniformity, are eliminated from the morbid statistics. The temperature is to be taken in the mouth twice daily, as close as possible to the hours of 8 a.m. and 5 p.m."

#### THE INSURANCE ACT, 1911.

In my last Report I took the opportunity of bringing before you the probable consequences of the Insurance Act, so far as maternity hospitals were concerned, and I tried to show you how illogical were the rules drawn up to govern the Maternity Benefit. Since that time a Joint Committee of the three Dublin Maternity Hospitals has been appointed for, I believe, the first time, and, thanks to the work that has been done by the Committee, as well as to the support given to the demands of Maternity Hospitals, both here and elsewhere, by the General Medical Council, the objectionable rules issued by the Commissioners have been altered. It is now possible for a woman to receive her maternity benefit who is attended in her home by the recognised students or pupil midwives of the Hospital, while, in the case of a woman confined in the Hospital, the benefit may be paid either to her dependents or to herself as soon as she has left the Hospital. I trust that the success that has attended the appointment of this Joint Committee of the Dublin Maternity Hospitals will lead to its continuance, as I believe that such a committee can do much to promote our common interests. If it had been in existence some years ago I do not think that our duly qualified midwives would now have to go to England for examination by the Central Midwives Board.

#### CONCLUSION.

In conclusion, I have cordially to thank my Assistants and the nursing staff of the Hospital for the care and attention they have devoted to it during the past year, and

the Lady Superintendent particularly for the manner in which she has adapted the work of the nursing staff to the altered conditions which have resulted from the erection of the new Labour Wards.

ART. V.—*The Recognition and Treatment of True Idiopathic Epilepsy in Children.*<sup>a</sup> By JAMES NOËL GREENE NOLAN, M.D. Univ. Dubl.; B.A. T.C.D.; Member Medico-Psychological Association; Assistant Medical Officer, Hellingly Hospital, East Sussex County Asylum.

IN making these suggestions as regards diagnosis and treatment of epilepsy in children, I wish to confine myself as far as possible to those cases of true idiopathic epilepsy, of which Aldren Turner gives the following :—

*Definition.*—“Epilepsy is a chronic, progressive disease, characterised by the periodic occurrence of seizures in which loss of consciousness is an essential feature, commonly, but not invariably, associated with convulsions, and frequently accompanied by psychical phenomena. It generally occurs in persons with an hereditary neuropathic history. It runs its course uninterruptedly, or with remissions, for a number of years; and terminates either in a cure or in the establishment of the confirmed disease.”

However, the subject would be very incomplete without at least mentioning and classifying the various nervous diseases to which children are subject in which seizures may occur, often indistinguishable from forms of true epilepsy. These cases of secondary epilepsy are not in general nearly so tractable, with certain definite exceptions, as will be noted. In this class, too, must be mentioned those cases occurring from traumata—*i.e.*, cases of true Jacksonian epilepsy.

Epilepsy occurs more frequently in males than females,

<sup>a</sup> A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, June 1913.



and this is noticeable from the first year onwards. One child out of every 500 is subject to the disease. The diseases originate more frequently in the first year of life than in any other. Then the fourth, seventh, and ninth years show a greater number than the intermediate years, and there is nearly as great an initial incidence in the fourteenth and fifteenth years with the onset of puberty as there is in the first year.

It has been conclusively proved that a neuropathic inheritance is the chief causative factor in the disease, and I have rarely found a case in which there was not a neurotic blemish on the parental tree. One authority gives the following table :—

Epilepsy	-	-	-	37.2	per cent.
Insanity	-	-	-	5.4	„
Alcoholism	-	-	-	3.1	„
Other nervous disorders	-	-	-	5.3	„
No known heredity	-	-	-	49.0	„
				<hr/>	
				100.0	

More common exciting causes are the undermentioned :—

A.—*Reflex Influences*.—Diseases of the nose—rhinitis, adenoids; diseases of the eyes—strabismus, myopia; diseases of the ear—mid-ear disease, polypus; diseases of the teeth—caries, pyorrhœa-alveolaris; disease of the throat—tonsillitis; disease of the stomach—gastritis; diseases of the intestines—constipation, parasites; diseases of the genitals—phimosis, pruritus.

B.—*Psychical Causes*.—Fear, emotional excitement, shock, grief, overwork, prolonged anxiety.

C.—*Infective Diseases*.—More frequently scarlet fever, but measles, influenza, diphtheria, pertussis have also been observed to bring to light the latent disease.

It should be noted that a temporary arrest of the seizures occasionally occurs in consequence of an attack of pyrexia. Also, the onset of the catamenia is frequently the exciting cause of the first seizure in a neurotic girl. As far

as can be ascertained there are no definite conclusions to be drawn between the state of the maternal health during pregnancy or an alcoholic condition *per se* existing in either parent during conception, or in the mother during intra-uterine life, and the incidence of epilepsy occurring in the child.

As regards secondary epilepsy, the convulsions are not always accompanied by a loss of consciousness, which is invariably present for a greater or lesser time in the idiopathic variety. I mention below the more common conditions in which these secondary attacks occur :—

1. *Congenital Cerebral Diplegia.*
2. *Acquired Cerebral Paralysis*—
  - (1.) Infantile hemiplegia and diplegia.
  - (2.) Atrophic sclerosis and cystic formation.
3. *Intra-cranial Tumours.*
4. *Vascular Lesions*—
  - (1.) Thrombosis.
  - (2.) Hæmorrhage.
  - (3.) Embolism.
5. *Encephalitis.*
6. *Hydrocephalus*—
  - (1.) Congenital.
  - (2.) Primary.
  - (3.) Secondary.
7. *Cerebro-spinal Syphilitic Lesions*—
  - (1.) Meningitis.
  - (2.) Vascular lesions—especially thrombosis.
  - (3.) Gummata.
  - (4.) Diffuse specific lesions.
8. *Juvenile General Paralysis.*
9. *Traumata.*

Practically all cases of secondary epilepsy may be regarded as incurable, save those in which congenital syphilis has been the predominant existing factor. These cases, if they are to have a fair chance of a recovery, must be recognised early, and here the Wassermann reaction proves of the greatest assistance. Taking only the imbecile children

under fifteen years of age in my care at present, the Wassermann reaction was + in 8.3 per cent. in those who suffered from convulsive attacks, whereas it was + in only 2.7 per cent. in those who did not, and it is interesting to note that no physical stigmata of congenital lues could be detected in any of these children.

Other hopeful patients to deal with are those who have recently suffered some injury which is directly causing their attacks. These recent traumatic cases give a fair percentage of recovery if seen early when operative measures can be undertaken. The success of the operation depends on the absence of post-operative adhesions or scar tissue formation beyond a minimum amount, and even then good results are not always assured. However, once the convulsive habit has been established there is a tendency to its perpetuation in the form of recurring epileptic seizures, so that the convulsions introduced by the above-mentioned disorders (and by uræmia and eclampsia in adults) may be the forerunners of genuine epileptic seizures which persist after the exciting cause has been successfully treated or surgically removed. The prognosis, therefore, is invariably bad, for the subject is always handicapped by a poorly developed nervous system, and the mental condition may range from that of slight backwardness to one of total idiocy. The treatment, therefore, is directed towards removing the existing cause and controlling the convulsive attacks. These may range in form from the severe major fit to a scarcely noticeable minor attack, or, indeed, may be replaced by one of the various psychical equivalents, though the latter condition is not readily recognisable in children.

*Diagnosis.*—It is not difficult to recognise the majority of these secondary cases. The symptoms of the causative disease are generally sufficiently obvious to prevent a mistake being made. Some doubt may arise in the cases due to specific disease, and, as already pointed out, the aid of the Wassermann reaction is required. It is important to remember that the symptoms to which the parents draw

one's attention are those of the seizure, and a careful examination of the child must be made in any doubtful cases.

*Treatment.*—The general treatment of the causative disease must be undertaken thoroughly, and of great importance is the building up of the patient's general strength.

These points will be dealt with more fully later on, and it is sufficient to say here that, having rigorously adopted general measures which always necessitate home care by suitable nurses, or in schools intended solely for defective children, one can hopefully attempt to check the convulsions. A nutritious purin-free diet enables one to do this with the aid of much smaller doses of the bromides. The addition of borax is, I have found, very efficacious in these cases. The dosage may be increased until control is established, but it is unnecessary to exhibit more than 60 grs. of the combined salts per diem. Larger doses only cause a worse mental state due to the condition of bromism being established. Géligneau's treatment proves of great service in these refractory cases, and by the use of dragées there is very little difficulty in administering the drug.

The general educational treatment is the same as that advocated for the idiopathic cases. But these children are usually more backward, and are rarely able to take their place among their fellow members in general society.

I come now to the recognition and treatment of the idiopathic disease in the young, and, first, I should like to draw attention to the neuropathic symptoms which manifest themselves in the mentally unstable. Long before any convulsion occurs a child may be noticed to exhibit very indicative neuroses, and if treatment be at once undertaken the convulsive attacks may be permanently warded off. Infantile convulsions are of serious import when they occur in the neuropathic child. Equally important from the medical point of view are such disorders of childhood as night-terrors, head-banging, teeth-grinding, nocturnal incontinence, sleeplessness, outbursts of temper, choreiform movements, the habit spasms, and

often some such definite objective phenomena as abnormal timidity, shyness, and self-consciousness. In addition, it may be noted that these nervous symptoms have their physical counterpart, and the child rarely looks healthy, or as well developed as it should for its age. Eye defects are frequently present.

Should the case come under notice later, when the convulsive attacks have made their appearance, more drastic treatment has to be adopted. The question of psychical equivalents occurring in these young children is too vague, and of too doubtful import, to require discussion, for one is apt to be misled by the spitefulness and bad temper which frequently is noticeable in some children, more especially in those who have been "spoilt," and who lacked parental control, but who have shown no other objective symptoms, and these children, as a rule, will not acquire this disorder.

The elements of an attack are twofold :—(A.) A convulsive, (B) psychical.

Under the convulsive element we note :—

(1.) Aura.

(2.) A complete attack in which there is a loss of consciousness, with a convulsive seizure (*haut-mal*).

(3.) An incomplete attack in which there is only loss of consciousness (*petit-mal*).

(4.) Sequelæ—*e.g.*, post-epileptic automatism. Coma.

B.—Under the psychical element there are to be noted—

(1.) The diagnostic epileptic character and temperament.

(2.) Definite paroxysmal psychoses which precede or succeed the convulsive phase.

(3.) Psychoses which replace entirely the convulsive phenomena—*i.e.*, equivalents.

(4.) The permanent inter-paroxysmal mental state resulting from the convulsive seizures.

It would be too long a matter to discuss the various combinations of these elements which may arise, for some cases merely exhibit an aura followed by an equiva-

lent. Others have a complete attack with no preceding aura or any sequela. Equivalentents are as likely to be followed by serious sequelæ as is an incomplete attack. Bearing this in mind, and aided by an unbiassed family history, it is not difficult to arrive at a diagnosis.

The differential diagnosis has to be made between hysteria, Gower's vagal attacks, febrile migraine, aural vertigo, heart disease, and, as we have tried to point out above, the seizures resulting from organic cerebral lesions.

*Prognosis.*—Hippocrates says :—" If it attacks little children the greater number die . . . if youths, recovery may take place. There is danger of its becoming habitual, and even increasing if not suitably treated."

This may be regarded as a somewhat hopeful view in the light of later day research.

The following table represents the present-time prospects more accurately. It has been compiled from the records of the Queen's Square Hospital.

Age at outset.	Arrests.	Improved.	Confirmed.	Cases.
	%	%	%	
Under 10	- 19.8	18.0	62.0	111
From 11 to 15	20.0	35.9	43.8	89
„ 16 to 20	- 34.3	29.6	35.9	64

*Treatment.*—1. Prophylaxis in a child who has exhibited the prodromata we have mentioned above should be undertaken at once. The management of the child should be based upon general hygienic and dietetic lines, and for its successful issue requires the alliance of the parent, teacher, and physician.<sup>a</sup> Regulated periods of exercise and instruction must alternate with regular periods of rest and repose. Corporal punishment must be absolutely prohibited. All over-exertion and strain, whether mental or physical, must be assiduously guarded against, and here great tact on the physician's part is required. The usual stimulating dietary of tea and

<sup>a</sup> It may be stated here that these children require constant observation day and night to prevent any untimely mishap occurring.

meat had better be abolished, and milk and cereals substituted. Drug treatment had better be avoided at this stage, save the administration of general tonics and necessary aperients.

The treatment of epilepsy at the onset of the disease may be :—(1.) Medicinal ; (2) dietetic ; (3) a combination of both the above, with general hygienic treatment. It need hardly be said that the last is the ideal course to adopt. A carefully-regulated life with a purin-free diet and a small daily dose of bromides is the treatment *par excellence*. The latter do not require to be given in great quantities or at intervals during the day. The smallest dose which appears to exert a favourable influence over the fits should be taken as the maximum, and this never should exceed 60 grs. The effect is intensified by the full quantity being given at one time. The best time is at night or before rising, depending on whether the patient is subject to diurnal or nocturnal attacks. Plenty of water should be given with the dose, and sufficient laxative to ensure a daily evacuation of the bowels. The best adjuvant is the syrup of Virginian prune.

Strychnine, borax, belladonna, zinc salts, opium, and innumerable other drugs have all been tried with varying success in individual cases ; probably the bromides which have been given were the chief factor in obtaining a cure. Flechsig's treatment, in our hands, has yielded no success, and it appears fraught with considerable danger, more especially in children. Organotherapy and serotherapy have not as yet produced a cure, and the latter appears to be a very irrational form of treatment.

As regards actual treatment during an attack there is nothing new to be said. It should be noted that attacks preceded by a prolonged aura can be warded off by a method which each patient discovers for himself, and which an observant nurse can apply when an attack seems imminent.

As regards the condition of "status," hypodermic injection of the bromides, aided by "lavage of the colon,"

and chloral administered rectally in grs. 30 doses will prove sufficient in milder cases. In the more severe attacks the convulsions must be controlled by chloroform, or death from exhaustion will ensue.

*The diet* should be carefully regulated, and on the same lines as we have previously laid down. Sodium chloride should find no place in the *cuisine* of a "fitty" child. Regularity and moderation, in all things, and abstinence from the various stimulating condiments, so frequently used nowadays, should be insisted upon.

*Surgical treatment* is absolutely useless save for removing some pre-existing exciting cause; circumcision when indicated will prove as efficacious as excision of the cervical sympathetic ganglia.

Before an "arrest" can be claimed, freedom from an attack for five years ought to be taken as a standard. During this time the medicinal course must be systematically adhered to, being gradually diminished, but never abolished.

*General Education.*—Some children show no mental defect, others exhibit a considerable degree of dementia. Shuttleworth, from his observations in the London School Board, compiled the following table from 470 cases :—

17 per cent. showed no mental improvement.

27.5 per cent. showed some mental improvement.

40 per cent. showed considerable mental improvement.

15.5 per cent. were incapable of being educated.

However, by reason of their malady, these children ought not to go to general schools. Their education is fraught with difficulty, but it should proceed on general lines, with due regard to the child's future.

Manual and industrial work ought to figure largely in the curriculum. The Lloyd system is the best that has been devised for these backward children. Such education is, therefore, best obtained in special homes and schools under medical supervision, and unless all facilities are available at home the child's future prospects are



materially benefited if removal to a special school be insisted upon.

Exercise should be a *sine quâ non*; tennis, football, Swedish drill, &c., are admirable, and if massage can be given afterwards all the better, as the circulation is sluggish and the general nutrition poor in many of these cases.

Such, in the main, is the treatment employed for some time past at the Hellingly Mental Hospital.

Unfortunately, early cases are the exception, as certification is the last resort of the unhappy parent.

The scope for useful work will undoubtedly be much wider when the new Mental Deficiency Bill comes into being.

Even with these unsatisfactory cases we get gratifying results, and quite 80 per cent. of our defective epileptics are usefully employed in the various industrial shops; and the younger children all benefit by their school training.

I am indebted to Dr. Taylor, R.M.S., for affording me every encouragement, and providing me with all facilities for the treatment of these children. Also to Dr. W. Rees Thomas, my colleague, for carrying out the clinical blood-tests and for the use of much valuable information which he had acquired when in charge of the hospital.

In conclusion, I wish to point out that much may be done to alleviate the future lot of a confirmed case by an early practical education and judicious medication.

Many cases will be improved, and some will enjoy a complete arrest of their distressing malady if treatment on the lines we have indicated be thoroughly carried out.

The lot of a demented convulsive is not a happy one, either to himself or his friends, and the greatest care should be taken that the bromide state be not superimposed upon an already unstable mental fabric. Any improvement that may be effected is a gain to the patient, even if only temporary, and everything should be tried for a considerable period before abandoning the case to the ranks of the insane.

ART. VI.—*The Treatment of Dysentery by Injections of Emetine Hydrochloride.*<sup>a</sup> By JAMES H. C. THOMPSON, M.D. Univ. Dubl.

#### INTRODUCTION.

NEXT to malaria, dysentery is the most widespread and important disease with which we have to deal in tropical countries. The prevalence of the disease, and its tendency to dangerous sequelæ, make it of the utmost importance that we should have some reliable and effective treatment for it.

The treatment of dysentery by the ipecacuanha root dates back to the time when the root was brought from Brazil to Europe by Piso, and was used by Helvetius in the treatment of Louis XIV. It was used subsequently by many Anglo-Indian physicians, but it was in 1858 that E. S. Docker, A.M.S., introduced the use of large doses (60 grs. two or three times a day) of the powdered root in the treatment of severe dysentery in Mauritius with great success, reducing the death-rate there from 10 to 18 per cent. to 2 per cent. These excellent results stimulated other physicians to the further use of the drug. However, some years later, the use of ipecacuanha for dysentery went out of fashion, its place being taken by the salines and ammonium chloride in hepatitis.

Ipecacuanha has, however, regained its favour in the last few years, owing to its advocacy by Sir Patrick Manson, and now its place is doubly assured in the practitioner's armamentarium by Professor Leonard Roger's introduction of the treatment of dysentery of soluble salts of emetine—one of the active principles of ipecacuanha.

This treatment consists of the hypodermic injection of small doses of emetine hydrochloride in watery solutions. These injections do not cause nausea or vomiting, the drug is quickly and readily absorbed, even in apparently hopeless cases, and the exact dosage of the active principle is insured.

<sup>a</sup> A Thesis submitted for the Degree of Doctor of Medicine in the University of Dublin, June, 1913.

For the past seven years I have been medical officer to a large group of tea estates in Cachar, on the north-east frontier of India. There we have a working native population of 50,000, and also about 80 Europeans.

Malaria, dysentery, cholera, &c., are endemic, and at certain seasons of the year they become epidemic.

In some places as much as 25 per cent. of the total sick-list is due to dysentery.

I have had ample opportunities for observing and treating such cases. In this thesis, therefore, I propose to give an account of the work done on this subject, and the result of my own experience in some cases.

The incidence of dysentery may be said to be a result of the operation of two factors—the local and personal. The local factor being wherever the general hygienic conditions are bad, wherever the soil is fouled with excreta, and especially where the water-supply is polluted. The personal factor is the weakened natural resistance of the bowel due to chill, bad food, intemperance, &c. Here the specific micro-organism finds the ground, as it were, prepared for it.

Three main types of dysentery, correlated to three types of parasites, are now fairly well made out. These are:—Bacterial, protozoal, and verminous, all of which types we get in Cachar, and also sometimes a mixed infection.

It is, however, of the protozoal type, amœbic dysentery, that we get by far the greatest number of cases, and it is with this type that we are now dealing.

It may be accepted as fairly certain that “amœbic dysentery” is caused by the *Entamœba histolytica*, as shown by Schaudinn, also by his experiment of feeding cats on the dried dysenteric stools containing the encapsulated spores of the *Entamœba histolytica*, and by the further strong argument of the intimate connection which exists between dysentery and the presence of amœbæ in nearly all liver abscesses.

Amœbic dysentery is usually insidious in its onset. The patient feels shivery and out of sorts; he generally starts with griping and diarrhœa and copious watery

stools. Soon, however, the stools become smaller, less fæculent, more mucous, and streaked with blood, and frequently there is tenesmus, and often tenderness over the left iliac fossa. The temperature is seldom raised, but the pulse-rate is increased. These cases usually continue for about five to ten days, and then gradually the symptoms clear up, but there is a strong tendency to recurrence of the attack on the slightest dietary indiscretion, and sometimes the attack recurs without any obvious cause. One frequently meets cases of natives who have suffered from chronic dysentery of this type for years or months, and are reduced practically to walking skeletons.

In the case of Europeans, liver abscess is the most serious sequela to guard against.

In the bacillary dysentery (or epidemic type) the onset is more sudden, and generally there is a sharp rise of temperature to  $102^{\circ}$  or  $103^{\circ}$ . There is not so much tendency to relapse, or formation of liver abscess.

Shiga, who has described the *Bacillus dysenterica*, claims to have produced a serum, by immunising animals, with which he has treated the disease with considerable success in Japan.

The treatment hitherto in vogue, while including a large section of the Pharmacopœia, has been along two or three main lines, viz. :—Ipecacuanha, salines, or castor oil. My treatment usually was to start off with  $\mathfrak{v}$ i of castor oil and a few minims of tinct. opii; after that had produced its effect I ordered  $\mathfrak{mxx}$  tinct. opii in  $\mathfrak{zss}$  of water, to be followed fifteen minutes later by gr. 30 of pulv. ipecac. in emulsion. (No food having been taken for some time previously.) This was repeated every four hours. Diet restricted to soup, milk, or albumen water, and the patient rigorously confined to bed. If, after twelve doses, there was no improvement, I then ordered the saline treatment—

R Sodii sulphatis,             $\mathfrak{z}$ i;  
       Acidi sulphurici dil.,  $\mathfrak{mxx}$ ;  
       Aquæ,                    ad  $\mathfrak{zss}$ .  
       Such a dose every 2 hours.

This was given till blood and mucus had disappeared from the stool.

In many cases the ipecacuanha caused nausea and vomiting, and we could not get the patients to take it. Indeed, the treatment of dysenteric patients, especially coolies, was attended with much difficulty, as they naturally resented medicine which they considered only made them feel worse!

Keratin-coated pills did not give much better results.

This was my routine treatment, and that of my colleagues in other districts. Of course, in certain cases we adopted different methods, but we were without any certain and reliable treatment, and sometimes much valuable time was lost in unavoidable experiment in trying to find out a suitable drug.

In 1911, Vedder found that emetine—the principal alkaloid of ipecacuanha—had the power in high dilution of destroying amœbæ in broth cultures.

Although it was not certain that this was the pathogenic amœba, Rogers, of Calcutta (who has also introduced the hypertonic saline treatment for cholera), tested the effect of a solution of emetine hydrochloride on *Amœba histolytica* in dysenteric stools. He found that on placing a piece of mucus containing numerous active amœbæ in a normal saline solution, a 1 in 10,000 of this salt, the pathogenic organisms were immediately killed, and materially altered in microscopical appearance, while after a few minutes they are rendered inactive, and apparently killed by a solution as weak as 1 in 100,000.

Rogers, therefore, decided to try the effect of this emetine in cases of amœbic dysentery, and he obtained strikingly good results, which he published in the *British Medical Journal*, June 22nd, 1912. They were all cases in which the patients could not tolerate ipecacuanha by the mouth, and one of the cases was acute hepatitis.

CASE I.—I first tried this treatment on a Hindu, male, aged forty-two, with a history of acute dysentery of about

eight days' duration, fifteen to twenty stools daily, containing mucus and pure blood; pain and tenderness in both iliac fossæ. The Dr. Babu had given him ipecacuanha mixture, but he had vomited it each time. I injected  $\frac{1}{3}$  gr. emetine hydrochloride in the morning, and another  $\frac{1}{3}$  gr. in the evening. On the same night he passed four stools, blood nearly stopped, mucus less, and pain very much relieved. Next day he got  $\frac{1}{4}$  gr. emetine and passed two stools, fæculent, small quantity of mucus, pain quite gone. Patient discharged third day.

CASE II.—A coolie, male, aged twenty. Acute dysentery, intolerance of ipecacuanha by the mouth. I injected  $\frac{1}{4}$  gr. emetine. No nausea or vomiting; gave him another  $\frac{1}{4}$  gr. eight hours after. Symptoms all relieved. Two more injections cured him.

CASE III.—An old coolie, male, aged seventy, had been suffering for years from chronic dysentery. About eight to twelve stools daily. Thickening and tenderness of the bowel. He was reduced almost to a skeleton, and unable to get about. I injected  $\frac{1}{3}$  gr. twice daily for about a week. Stools were reduced to one or two a day, healthy, and patient was feeling and looking very much better. Unfortunately, he got pneumonia and died. However, there is no doubt he was making a wonderful recovery under the emetine treatment, after years of chronic dysentery and various treatments.

CASE IV.—A coolie woman, aged twenty-seven. Eight months pregnant, suffering from acute dysentery. Injected  $\frac{1}{3}$  gr. emetine twice daily; cured in two days. Had a normal delivery at full time. This case illustrates the fact that this treatment is applicable to pregnant women, and is a most important point in dealing with Indian women.

CASE V.—European child, male, aged two and a half. Had an attack of measles about one month previously, now developed symptoms of acute dysentery. Blood-stained mucous stools. Severe tenesmus, pain and tenderness in both iliac fossæ. Small doses of ipecacuanha caused vomiting. We then injected  $\frac{1}{8}$  gr. emetine three times the first day; next day the symptoms were relieved, except the child cried a good deal. We injected  $\frac{1}{8}$  gr., after which the stools were free from blood, and contained only a trace of mucus.

He developed meningitis, and died forty-eight hours later. In the bungalow where this child died, his father, mother, aunt, and my colleague (who had stayed there during the child's illness) all contracted dysentery, but each was given a 1 gr. injection, which promptly cut short the attack. We traced the source of the infection in this case to the bungalow water supply, which had been fouled by a coolie suffering from dysentery.

CASE VI.—A villager brought a child, female, aged four, to my bungalow suffering from chronic dysentery of six months' standing. The stools consisted chiefly of glairy mucus slightly blood-stained. The child was emaciated and very weak. I gave the child one  $\frac{1}{4}$  gr. tablet of emetine by the mouth, and gave three more tablets to the mother, with instructions to give one to the child every morning, and to come back on the fourth day. The result surpassed my expectations. The child was brought back to me, looking better and brighter. Stools were almost normal, no pain in abdomen, and there had been no tendency to vomit. A month after, there was a slight relapse, but a further course of four tablets cured her, and since then she has been in good health.

CASE VII.—A Swede, male, aged forty-seven, came under my care in April, 1912. He had an interesting surgical history, having been operated on for appendicitis and peritonitis five years ago. Previous to that he had severe lead poisoning, and had double cataract operation performed. There was also a history of an attack of dysentery about eight years ago. He complained of general malaise, loss of appetite, loss of weight, a slight pain over the liver and behind the right shoulder. He had a dry, hacking cough. He looked haggard, and his complexion was a dirty muddy grey. Temperature from  $99.5^{\circ}$  in the morning to  $101.2^{\circ}$  in the evening. Pulse 90 to 110. Respirations 22. Bowels regular. He did not perspire at night. On examination, his cardiac, pulmonary, and urinary systems were found sound. The liver was very slightly enlarged downward, and there was slight tenderness on deep pressure. I gave him two injections of quinine bihydrochloride, 15 grs. in each, in order to eliminate any question of malaria. I then put him on 10 gr. doses of pulv. ipecacuanhæ four times

daily, and 2 grs. of calomel at night. Light diet and rest. After ten days, as he did not improve, I sent him to a hospital in Calcutta. His liver was *x*-rayed, and showed dark patches over it. He was kept in hospital for three weeks, and given large doses of ipecacuanha and low diet. He lost 28lbs. in hospital, but the fever quite left. He was then sent to a seaside resort, where one day, after being there about a week, he said "he felt sick and vomited up a lot of stuff like blackberry jelly, and felt much better after it." After returning to Calcutta, his liver was *x*-rayed again, and appeared quite normal. He came back to Cachar in June, 1912, and said he felt much better, but did not have any appetite or energy. He could not put on any of the weight he had lost. About last October he began to have an "uneasy feeling over his liver." He perspired at night, and was easily fatigued. He looked ill, haggard; complexion yellowish green; temperature 99°; pulse 110; respirations 20. No cough. I injected him with  $\frac{1}{4}$  gr. emetine every day for a week. All his symptoms disappeared, appetite returned, got a clear, healthy complexion; pulse and temperature normal. Sleeps well, and has put on weight steadily. He has had no relapse to present time.

I consider that this was clearly a case of amœbic hepatitis, and possibly what he vomited at the seaside may have been a liver abscess, which, fortunately for him, discharged into the stomach. The fact that he had dysentery eight years ago, and that the liver symptoms cleared up rapidly under the emetine treatment, appears to show that the origin of the trouble was amœbic.

I used to give small doses when I first tried emetine— $\frac{1}{3}$ -gr. doses—but now I never use less than  $\frac{1}{2}$ -gr. doses for adults, and sometimes when I get early cases I inject 1 gr., which I find practically aborts the disease. I have never found any ill effect following an injection.

Strict aseptic precautions are taken, and I always boil syringe and needle, and use boiled water for making the solution.

In mixed dysentery infection—*i.e.*, amœbic and bacil-



lary—I find that injections of emetine, and 3ss doses of the acid sodium sulphate mixture by the mouth is the most satisfactory method, strict attention always being paid to diet and rest.

These, then, are a few of about 150 cases which I have treated with this emetine hydrochloride. In some of the cases the treatment had no effect whatever, and those, according to Rogers, are of bacillary origin. So, therefore, not only does emetine cure the amœbic variety (which constitutes about 85 per cent. of the dysentery in my district), but it serves for a differential diagnosis for bacillary dysentery, and thus enables it to be quickly treated along the proper lines.

In conclusion, I think that we have in the treatment of dysentery by injections of emetine hydrochloride, a powerful, reliable, and scientific method, the value of which it would be difficult to over-estimate.

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#### THE USE OF SUMBUL.

A DRUG which is not very often prescribed nowadays in England is sumbul root, of which the tincture is officinal (? official) in the “British Pharmacopœia.” Its chief action, according to Hale-White, is as a carminative; and, as it also contains valerianic acid, it has been used a good deal for neurasthenia and functional nervous disorders. Sumbul is contained in one, if not more, of the secret quack medicines which are under inquiry at the hands of a Parliamentary Commission. It was formerly a favourite for combination with bromides, though one eminent authority in London who thus prescribed it avowed openly that he did so merely because it very effectively covered the nasty taste of bromide salts. Dr. Macht has been investigating sumbul clinically at the Johns Hopkins Hospital, and he has come to the conclusion that it is quite useless for any and every kind of functional nervous disorder. In a small percentage of cases some temporary improvement followed its exhibition; but there was no lasting benefit.—*The Hospital*, June 21, 1913.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*The Law Relating to Public Health in Ireland.* By GEORGE T. B. VANSTON, M.A., LL.D. (sometime Scholar and Double Sen. Mod., Trin. Coll., Dublin); one of His Majesty's Counsel; Legal Adviser to the Local Government Board for Ireland; editor of "The Law Relating to Local Government in Ireland," "The Law of Municipal Boroughs in Ireland," &c. Second Edition. Dublin: E. Ponsonby, Ltd. 1913. Royal 8vo. Pp. xcv + 1333.

OUR issue for June contained a short notice of the publication of the new edition of Vanston's "Public Health." The first edition of this valuable work was published in 1892. At that time the principal Act had been in full working order for several years, and the want was felt of an authoritative book on the subject. In the interval of fourteen years various amending Acts had been passed, and all of these were reproduced together with the Act of 1878 and the statutes incorporated with it in the first "Vanston." The book was at once recognised as the standard authority on the subject of public health in this country—the Irish "Lumley" or "Glen," or, perhaps, we should describe it better as the "Lumley and Glen" of Ireland, occupying as it does the same place with regard to Irish practice that these two well-known books hold jointly with regard to the English practice.

A much-needed supplement was produced in 1897, and brought the work thoroughly up-to-date. Since then, however, many new statutes relative to Medical Jurisprudence have been passed, new rules and regulations have been made, there have been legal decisions almost innumerable. More than twelve hundred of them, we are

told, have been noted in the edition under review over and above those contained in the earlier edition and supplement, each of which has determined or explained some doubtful point in the legal construction of a word or a sentence—a matter of as equally vital importance to the medical practitioner as to the lawyer. A new edition was, therefore, urgently required, and Dr. Vanston has skillfully supplied the demand.

The order and arrangement of the earlier work have been preserved. In the first part we have the Act of 1878 and the various amending Public Health Acts, so-called, which have been passed between that date and the present time. These include the important Acts of 1890 and 1896 and the Public Health Acts Amendment Act, 1907, of which Parts III. (Sanitary Provisions) and Part IV. (Infectious Diseases) are of such great importance to medical men. The statutes, twelve in number, which are included in this part are set out in full, omitting only those sections which have been since repealed and those which do not in any way apply to Ireland. Each clause is carefully annotated, and numerous cross-references are given. In all, no less than 427 pages are devoted to the Public Health Acts, which constitute Part I. of the work.

Part II. is devoted to those statutes which are incorporated wholly or in part with the Public Health Acts or which otherwise affect sanitary authorities. The seventy-eight statutes comprised are arranged in chronological order, and occupy four hundred and ninety-three pages. They deal with many and varied subjects, with Companies Clauses Consolidation Acts, with the Pollution of Rivers, the Sale of Food and Drugs, and Electric Lighting, with the Housing of the Working Classes, and the Notification of Infectious Diseases, with Factory Acts and Gasworks. The Shops Acts of 1912 and 1913 and the Tuberculosis Prevention (Ireland) Acts of 1913, which in part repealed the Act of 1908, have been included in the text by the insertion of an extra sheet. We are glad to see that the author has reproduced those sections of the National Insurance Act which deal with the administration of sana-

torium benefit and inquiries into the causes of excessive sickness.

Looking at it from a medical point of view, we regret that it was not possible to include the Infectious Disease Notification and Prevention Acts and the Tuberculosis Prevention (Ireland) Acts in that part of the work which is devoted more exclusively to the subject of Public Health, but we quite see that this would ultimately tend to confusion rather than to elucidation, for, if medical men were allowed to include those statutes which appeal chiefly to them, public authorities would also desire to include the statutes dealing with their duty in the matter of public health, while the legal mind would at once fly to the Public Authorities Protection Act or to the Lands Clauses Acts and the Trustee Act, and demand that they should certainly be included in Part I. As a medium course we would suggest that the statutes in Part II. should be grouped in sections instead of being placed in chronological order, Section I. containing those concerning the duties of medical practitioners and sanitary officers, Section II. consisting of those statutes which apply more particularly to public bodies, and Section III. comprising all the statutes which are not included in either Section I. or Section II., but which nevertheless are incorporated in the Public Health Acts or which otherwise affect sanitary authorities.

The third part of the volume is reserved for Rules and Regulations of the Lord Lieutenant and Privy Council, and for Orders of the Local Government Board and the Board of Trade made pursuant to and by virtue of the various statutes contained in Parts I. and II. The Local Government Board's Model Bylaws are set out in Appendix A. Appendix B contains Instructions as to Provisional Orders under the Public Health Acts and loans under the Housing of the Working Classes (Ireland) Act, 1908, while Appendix C refers to the repayment of loans by local authorities. There is a good index, which covers no less than eighty-three pages.

The length of time required to prepare so comprehensive

a volume for the press has left its mark in the long list of *addenda* and *corrigenda* which follows the tables of contents, of statutes, and of cases, in the forefront of the book. The majority of the alterations are references to recent case law, many of the cases mentioned being reported in the current volumes (1913) of the law reports.

There are wonderfully few misprints in the text throughout the fourteen hundred odd pages, and most of them have been detected by the author. One of a couple of unimportant misprints which we noticed was in the list of addenda at page xcii. The test for determining whether a supply of water is for domestic or trade purposes is stated to have been laid down by the House of Lords in 1812—a date when people knew little, and cared less, about anything relating to hygiene.

The book is well printed and neatly bound—a credit alike to the University Press, Dublin, and to the publishers, Messrs. E. Ponsonby, Ltd.

A. R. M.

*Manual of Human Embryology*. Edited by FRANZ KEIBEL, Professor in the University of Freiburg in Baden; and FRANKLIN P. MALL, Professor of Anatomy in Johns Hopkins University, Baltimore, U.S.A. In two volumes. Vol. II., with 658 Illustrations. Philadelphia and London: J. B. Lippincott Company. 1912. Pp. 1032.

WE do not hesitate to say that the publication of the second volume of Keibel and Mall's *Human Embryology* completes the most important and comprehensive work upon the development of man which has appeared in any country up to the present time. Most heartily we congratulate the editors upon the completion of their task.

By publishing the work simultaneously in English and German they have placed readers of these languages under a deep debt of gratitude. Volume II. contains seven chapters which deal with (1) the development of the nervous system; (2) the development of the chromaffin organs and of the suprarenal bodies; (3) the development

of the sense organs; (4) the development of the digestive tract and the organs of respiration; (5) the development of the blood, the vascular system and the spleen; (6) the development of the urino-genital organs; and (7) the interdependence of the various developmental processes. In each of these chapters we find collected into a consecutive history a vast amount of information, derived in part from the investigations by the authors themselves, and in part from the researches of others published in the scientific periodicals of all countries. Very much of the information given is made accessible now for the first time to readers of English, and there can be no doubt that as a result of the work not only will a great stimulus be given to further investigation and research in embryology, but much light will be thrown upon many problems connected with the physiology and pathology of obscure conditions which affect the human subject.

The work is profusely illustrated, and contains most valuable lists of the papers dealing with the various subjects under discussion. We are told that the idea of this manual of human embryology originated with the late Professor His. Workers in every country have reason to rejoice that his project has been so successfully completed by the distinguished editors and their collaborators.

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*Diseases of Children by Various Authors.* Edited by ARCHIBALD GARROD, D.M., M.A., F.R.C.P., F.R.S.; FREDERICK E. BATTEN, M.D., M.A., F.R.C.P.; and HUGH THURSFIELD, D.M., M.A., F.R.C.P. London: Edward Arnold. 1913. Royal 8vo. Pp. xv + 1184.

THIS work forms a very valuable addition to the literature on children's diseases. It takes the form of a System of Medicine, the different chapters being written by different authors. By this means the editors have been able to combine in one volume the most recent investigations by specialists in each different subject. Of course every book brought out in this way has some drawbacks, such as overlapping of subjects, lack of uniformity of style, &c., but the advantages in the present instance certainly out-

weigh any of these disadvantages, and the editors are most heartily to be congratulated on their production. It would be invidious to quote from one chapter to the exclusion of another, but it may be mentioned that, as well as the ordinary systemic classification, infectious diseases, and so forth, we find interesting chapters, such as "Heredity," by Gossage; "Œdema," by G. F. Still, that add interest and variety to the whole. In fact, it is a book to which one may turn for refreshment when we are wearied with the form of the ordinary text-book. In addition to this, the book forms a valuable exposition of the views of what can now be considered as a well-defined school—that of the London Pædiatrists. And here again the editors are to be congratulated on having secured the services of men whose names carry conviction with them.

The book is well brought out and illustrated, and, in spite of its 1184 pages, is not too unwieldy.

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*Clinical Medicine.* A Manual for the Use of Students and Junior Practitioners. By JUDSON S. BURY, M.D. (Lond.), F.R.C.P., B.Sc., Vict. Third Edition. Edited by JUDSON S. BURY and ALBERT RAMSBOTTOM, M.D., M.R.C.P. London: Charles Griffin & Co. 1912. Royal 8vo. Pp. xxi + 530.

THE third edition of this now fairly well-known work does not differ materially from its predecessors. In addition, however, to general revision in accordance with the advance of its subject, a new chapter has been supplied by Dr. Barclay, of the Manchester Royal Infirmary, entitled "Examination of the Deeper Structures by means of the Röntgen Rays." This will be found a most interesting and useful account of a method which is attaining greater prominence daily in the province of diagnosis. The article is quite free from the technicalities which frequently obscure this topic for the non-specialist, and it is somewhat surprising to find the number of conditions which may be "illuminated" by the use of the rays.

For the benefit of those unacquainted with the previous

editions of the book, we may say that the title is somewhat misleading—the contents are not to any substantial extent a description of medical diseases, but of the methods, both clinical and laboratory, used in their diagnosis. Recognising this as the scope of the work, we must admit that the object has been well carried out. The various procedures are clearly and simply put, are sufficiently comprehensive, and only well-tried methods and established facts are included. Illustrations are profuse, and though not quite such artistic and finished pictures as those which adorn most modern text-books, they are not a whit less instructive thereby. The blood-plates, however, lack realism. Probably in no department of Medicine at present is the competition of books keener than in this subject of clinical diagnosis—we must confess that we can see very little difference between many of them—and we often wish that their respective authors could collaborate to produce one book combining the merits of all without the present widespread overlapping.

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*Tuberculin in Diagnosis and Treatment.* By LOUIS HAMMAN, Associate in Medicine in the Johns Hopkins University and to the Johns Hopkins Hospital; and SAMUEL WOLMAN, Instructor in Medicine in the Johns Hopkins University. New York and London: D. Appleton & Co. 1912. Cr. 8vo. Pp. xiv + 381.

THIS book is a most valuable addition to the literature dealing with the diagnostic and therapeutic uses of tuberculin. It is written in a thoroughly scientific spirit, but we fear that it is a little too elaborate to prove really useful to any except those who are extensively engaged in the treatment of tubercular patients. The general practitioner who may number amongst his patients a few tubercular cases who may be suitable for tuberculin treatment requires a more concise handbook as his guide. Possibly the authors would be of opinion that the general practitioner has hardly the time or opportunity to study



the subject sufficiently to make himself a safe and reliable administrator of tuberculin; but, even if we agree with such a possible view, the fact remains that there are many patients who can be treated only by the local practitioner, and we fear that, as already stated, a man in general practice will find this book too minute and elaborate to be mastered.

Having expressed this opinion, we hasten to add that the book is most interesting, and is written by men who are obviously masters of the subject. It is divided into three main sections, of which the first deals with the scientific principles underlying the diagnostic and therapeutic uses of tuberculin, the second with the use of tuberculin in diagnosis, and the third with the use of tuberculin in treatment.

Under the second section all the diagnostic tuberculin tests are discussed at length, and their value is appraised. How well the authors have preserved their balance in relation to these tests is shown by their reiterated assertion that the tuberculin tests never in themselves establish a diagnosis. A positive result undoubtedly indicates that infection at some time or other has occurred, but it by no means proves that the reacting individual is at the time suffering from active tubercular disease. Nowadays, when it is the fashion amongst a certain class of doctors to label every individual who gives a positive skin reaction as actively tubercular, and later to claim his cure (from a disease from which he has never suffered) as evidence of the value of some special line of treatment, it is refreshing to read the views of candid scientific inquirers who are seeking truth and not *kudos* or fees. As therapeutists, the writers take an intermediate position between those who advocate the production of a strong reaction and those who think that even the slightest reaction is to be avoided. We cannot here discuss their views in detail, but agree with them that the circumstances of each individual case must be considered, and that while general rules are useful, such rules should unhesitatingly be abandoned if the wel-

fare of the patient so demand. The more experience one has the more one is likely to know the rule laid down by other workers and the less is one likely to follow any of them slavishly.

We once again commend this book to all sanatorium workers and to those engaged in tuberculin dispensary work.

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*Invalid and Convalescent Cookery.* By MARY E. BIRT.  
Second Edition. Bristol: John Wright & Sons, Ltd.  
1913. Pp. 32.

THIS is a small booklet containing many excellent receipts suitable for the sick room. They are mostly those to be found in ordinary cookery books, but are worded in a clear and vivid way, which, together with the convenience of having all in one small book, gives a reason for the book's existence. It may be remarked that the omission of albumen water should be corrected before another edition is published.

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*A Course in Normal Histology.* By RUDOLF KRAUSE  
(Berlin). Translated by P. J. R. SCHMAHL, M.D.  
(New York). London: Rebman, Ltd. In two parts.  
Part I., pp. vii and 86.

THE first part of this work forms an excellent compendium of useful information in microscopic technique. It is not complete, but it has admirable features. It begins with a good account of the theory of the microscope and how it should be used. Then it proceeds to explain the methods of preservation of tissues and the preparation of sections. The advantages and disadvantages of the various procedures are well told, and where advice is given it is reliable. One misses, however, any reference to the picro-corrosive fixing fluid of G. Mann, which is much used in Great Britain. In the matter of section cutting stress is laid, and rightly so, upon the method of freezing by means of solid carbon dioxide and on the necessity of

every student being able to prepare a useful microscopic specimen early in his clinical career.

Stains and their uses are, on the whole, well treated. More might have been said on the methods of staining film preparations, but for reference to the composition of most of the well-known staining mixtures the article on this subject is very serviceable. Practical directions are also given for injecting and mounting preparations. The first part ends with a section on the drawing and measuring of microscopic objects. The importance of drawing as a means of acquiring histological knowledge is fully impressed upon the student, and no more useful precept could be inculcated.

The book is of convenient size, well illustrated, and filled with practical information.

The second part, which has not yet appeared, contains the descriptive account of the histology of the tissues and organs.

*Influence of Thermal Environment on the Circulation and the Body Heat.* By E. R. LYTH, M.B., &c.  
London: John Bale, Sons & Danielsson, Ltd. Pp. iv and 72.

THIS small book contains the results of a series of studies chiefly on the effects of temperature on the circulation. They have been carried out with great trouble and care, and include records of pulse-rate, of blood-pressure, and of temperature. The blood-pressure was recorded by means of Oliver's hæmodynamometer. Two sets of blood-pressure measurements are given, which the author terms "vascular pressure," shown by the greatest excursion of the index, and "systolic impulse pressure," which obliterates the movement altogether. These correspond to what are usually called "diastolic" and "systolic" pressures. The temperature was taken in the rectum and on the skin of the inguinal region of the abdomen by means of specially-constructed thermometers.

A large number of the observations were made with the subject in bed, and include the effects of increasing the covering (hot condition) and of reducing or removing the covering (cold condition). In the former the pulse and temperature rise, the blood-pressure falls; in the latter the pulse and skin temperature fall, while blood-pressure and rectal temperature rise.

The significance of these circulatory changes is then discussed, the author deducing that the blood-pressure changes are not of cardiac but, on the contrary, of peripheral origin.

Cold, however, does not always reduce the pulse-rate, and the opposite effect is shown to occur under different conditions, such as the influence of a cold wind, a cold bath, and particularly by a stream of cold water if the temperature is not too close to that of the skin. These conditions influence not only the pressure and speed of the current, but also the distribution of the blood.

There are useful data in the book contained in a large number of tables. These are for the most part reduced to the graphic form in charts, of which there are altogether fifteen. The author is of the opinion that the evolution of heat in the contraction of the heart is a material factor in the production of body heat.

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*Handbook of the Historical Medical Museum.* Organised by HENRY S. WELLCOME in connection with the Seventeenth International Congress of Medicine, London, 1913. 8vo. Pp. 140. 11 Plates and 5 Plans.

For many years the study of medical history met with little encouragement in the British Isles, and those few who devoted time to the elucidation of its problems were looked on more as harmless faddists than as contributors to serious knowledge. Such views have, however, we hope, passed away for ever, and we are gradually coming to recognise not only the interest but the importance of the study of the History of Medicine in the elucidation of man's evolution. Already a Section for this study has

been added to the Royal Society of Medicine, and this year, for the first time, a Section of Medical History has been included in the programme of the International Congress. Mr. Wellcome has taken the opportunity of the Congress to open his long-promised Medical Museum, and the Congress has been fortunate in securing it as an adjunct to the meetings. The book before us is intended merely as a guide to the treasures exhibited, and not as a descriptive catalogue; but it contains sufficient to make us look forward with pleasure to a visit to the Museum, and to express the sincere hope that a complete catalogue will be published later on.

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*A Manual of Venereal Diseases.* Introduction by SIR ALFRED KEOGH, K.C.B.; late Director-General of the Army Medical Service. History, Statistics, Invaliding, &c., BREVET-COLONEL C. H. MELVILLE, R.A.M.C., late Professor of Hygiene, Royal Army Medical College. Clinical Pathology and Bacteriology, BREVET-COLONEL SIR WILLIAM LEISHMAN, K.H.P., F.R.S., R.A.M.C., Professor of Pathology, Royal Army Medical College. Clinical Course and Treatment, MAJOR C. E. POLLOCK, R.A.M.C. Second Edition, revised and largely rewritten, with new matter by MAJOR L. W. HARRISON, R.A.M.C., Clinical Pathologist, Military Hospital, Rochester Row. Oxford Medical Publications. London: Henry Frowde and Hodder & Stoughton. 1913. Demy 8vo. Pp. xvi + 318.

THE second edition of Pollock & Harrison's "Manual of Venereal Diseases" is practically a new book. Since the first edition of what we then described as "a little volume" was reviewed in the number of this Journal for January, 1908 (Vol. CXXV., page 36), the study of the venereal affections has attracted more attention than ever before, our knowledge of them has much increased, and their treatment has advanced by leaps and bounds.

All this has been recognised by the authors of this

handsome volume of more than 300 demy octavo pages, and the result is a thoroughly practical and, on the whole, eminently scientific treatise. The title-page has been transcribed in full at the head of this review in order that our readers may see for themselves how wide is the scope of the subject-matter of the book, and by what competent pens it has been contributed.

In the light of modern investigations Major L. W. Harrison has practically re-written the chapters II. to V., inclusive, on the pathology of syphilis. To show how thoroughly up-to-date the letterpress is it is only necessary to refer to page 31, at which allusion is made to Noguchi's successful experiments in relation to the artificial cultivation of the *Spirochæte pallida*, or *Treponema pallidum* as Schaudinn named the organism. It was so recently as 1911 that H. Noguchi succeeded in obtaining pure cultures with which he produced typical syphilitic lesions in rabbits. At page 33, a footnote draws attention to a still more recent paper by Noguchi, entitled "A method for cultivating *T. pallidum* in fluid media." This paper was published in the *Journal of Experimental Medicine* for 1912 (Vol. XVI.).

As was to be expected also, the first of the chapters on treatment (Chapter VII.) is entirely given up to a very full and able account of salvarsan and neo-salvarsan from Major Harrison's pen. It is illustrated by two coloured plates. Of these, the first shows an extra-genital chancre of the thumb and a maculo-papular eruption on the trunk. The colour photograph was taken immediately before an intra-muscular injection of salvarsan (0.6 grm.) at the Military Hospital, Rochester Row. Another colour photograph of the same case was taken ten days afterwards. It shows the chancre almost healed, while only stains of the rash remain.

Major Harrison points out that the effect of salvarsan on the *T. pallidum* and on the Wassermann reaction is not less striking, and constitutes one of the main supports of its specific action. He states that the Wassermann re-

action varies in the length of time which elapses before it becomes negative. Further, he admits that the effects of the remedy on parasyphilitic lesions is uncertain. We are inclined, perhaps from a too limited experience, to go further and suggest that it is practically *nil*. We doubt that salvarsan or neo-salvarsan can exercise any curative power once organic changes have taken place in the central nervous system. Here is what Major Harrison says on the subject:—"In some cases of tabes it has caused the sexual power to return and the Argyll-Robertson pupil to disappear, and has effected considerable improvement in co-ordination; in others it has proved disappointing, and has sometimes even aggravated the symptoms. In most cases of general paralysis it has proved disappointing." He adds:—"Most of the impressions regarding the effect of salvarsan on parasyphilis have been gathered, however, from results obtained when not so much was known regarding the best methods of giving the remedy, and better results are now being reported under improved methods" (page 174).

One of the most interesting chapters in the book is the thirteenth, on the treatment of gonorrhœa. The author is again Major Harrison, who deals with the question under four headings:—(1) The general management of the case; (2) drugs; (3) methods of urethral medication; and (4) vaccine and serum therapy.

The methods of urethral medication may be roughly classified as (1) small syringe, (2) large syringe, (3) irrigation, (4) jellies, &c., (5) by the application of heat, (6) by means of instruments, (7) ionisation—the last with zinc in chronic cases being distinctly encouraging.

But the treatment by the local application of heat strikes us as being the most novel and instructive. Major Harrison observes that "the theoretical foundation of this is the destructive effect of comparatively low temperatures on the gonococcus, which dies in six hours at 104° F., and at higher temperatures in a considerably shorter time." (Page 248.) He adds:—"Kyaw (1912) reported considerable success with diathermy, but the necessary

apparatus is too costly to permit of the general application of this form of treatment." During a recent visit to Harrogate we had an opportunity of seeing the diathermy apparatus at work. In order to get over the difficulty of expense, Major G. J. Houghton, one of the staff of the Military Hospital, Rochester Row, London, has recently used with success in gonorrhœa the hot-water bougie invented by Dr. Valentine, of Silchar, India. This ingenious instrument, and the method of employing it, are fully described by Major Harrison, who also has used an electrically-heated bougie devised for the treatment of stricture by Dr. Ph. Kobelt.

Enough has been stated to show the high character of the work before us. It is a matter for regret that in so scientific a treatise the practically useless and even misleading "Table of Values in Diagnosis" should still find a place on pages 156 and 157.

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*Essentials of Medicine: a Text-book of Medicine for Students beginning a Medical Course, for Nurses, and for all others interested in the Care of the Sick.* By CHARLES PHILLIPS EMERSON, M.D.; late Resident Physician, the Johns Hopkins Hospital, and Associate in Medicine, the Johns Hopkins Hospital. Second Edition, revised. Philadelphia and London: J. B. Lippincott Company. 1911. Demy 8vo. Pp. xi + 401.

It is hard to realise that this book is by the same author as the excellent "Clinical Diagnosis," which also lies before us. The preface tells us that it is intended for junior students of medicine and for nurses, but there is also the suggestion that "the book may be attractive to the general reader." The second of these purposes is, in our opinion, the only one which deserves to be fulfilled, though practically all reference to the subject of nursing is omitted. There is, however, a good summary of diseases of all kinds comprised under the term "medical" written in non-technical style, which would, no doubt, be



of interest and profit to an intelligent nurse could she be induced to read it. As regards the other objects we do not agree. The writing of semi-technical books for the enlightenment of lay readers is not encouraged by the leaders of medical thought in this country, for the very good reason that more harm than good may be done thereby. The paper cover enclosing the book is, however, of interest in this connection. We find there three advertisements of works by medical men, entitled :—"Why Worry?" "Those Nerves," and "Self-help for Nervous Women." Further comment is needless! It should be stated that the author in his preface disclaims its use as a "family physician." We hope that his advice will be followed.

The value of the book to the medical student is doubtful. His time is fully taken up during the first years with subjects in which examinations must be passed to the satisfaction of examiners, who are often not greatly interested in the clinical aspect or bearing of their work. The average student will not find time for reading books which will not help him much in the particular course on which he is engaged. Later on, when he sees a case in hospital, he should be encouraged to read up as much as he can about it, not merely to recollect its simplest features. There is already too much tendency to rely on a work consisting of "Essentials" or "Elements," and if for no other reason the training is bad.

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*Clinical Diagnosis*. By CHARLES PHILLIPS EMERSON, A.B., M.D. Third Edition. Philadelphia and London : J. B. Lippincott Company. 1911. Svo. Pp. xxix + 724.

AN excellent testimonial to the value of this work consists in the mere fact that the third edition has appeared in the space of five years. But, as the author points out, a book of this nature must be kept up-to-date, as far as is consistent with the inclusion only of "subjects the value of which is reasonably certain . . . and methods which have been well tested."

Needless to say, many changes have been effected, and the appearance of the book considerably altered. We venture to say that little of importance has been omitted concerning the particular topics dealt with; in fact, we may go farther and apply the word "comprehensive" to the description of the six subjects which occupy a bulky volume of over seven hundred pages. These subjects are in order: the sputum, urine, stomach and intestinal contents, the blood and various body fluids.

Though the number of text-books dealing with the same question in diagnosis is enormous, and many of them are so excellent that they have become our constant assistants, we have not met one before which restricts its scope and magnifies its field to the same extent as that before us. To whatever subject we turned for information, we found in full all that we already knew, and, it must be confessed, much of which we were hitherto ignorant. Though all the sections are so good, we are most pleased with that on the blood, which, in addition to being the largest, is probably of most interest at the present time. Not only the various pathological changes in the blood itself, but also those in the bone-marrow are dealt with, while exhaustive descriptions of the Wassermann reaction and the opsonic index are included. The illustrations in general are numerous and excellent, but the coloured blood plates are particularly effective—indeed, more like what is expected in an atlas of hamatology than in a text-book.

The subject of functional diagnosis, which is attracting much attention on the Continent, is not neglected, an interesting account being given of the various methods of examining for renal function, though the author regrets that the amount of work done in this field has been rather unfruitful. We are sorry, nevertheless, that the plan of the work does not include the methods of testing function in other organs, some of which are of considerable interest and proved value.

The book, on the whole, gives one an unusual feeling of satisfaction, probably due to its completeness of detail

in all the subjects attempted. The index is good, and will prove of much assistance in the work of reference, which is, after all, the main function of such a book.

*Primary Malignant Growths of the Lungs and Bronchi.*

By J. ADLER, M.D. New York and London : Longmans, Green & Co. 1912. Demy 8vo. Pp. xii + 325.

OUR first thought on taking up a volume with this title is anticipated by the author in his opening sentence :—" Is it worth while to write a monograph on the subject of primary malignant tumours of the lung? " But when we consider the scanty and scattered information on the subject already in existence we are compelled to admit that it is certainly " worth while," provided any one can be found with sufficient energy and perseverance to undertake the task. Professor Adler has done so with a thoroughness that deserves the gratitude and approbation of the profession, and has compiled what we believe will prove to be a classic on the subject. He combats the general idea that primary malignant neoplasms of the lungs are among the rarest forms of disease, and shows that in recent years more and more cases are being reported—not, he believes, from any increase in the incidence but rather from more careful *post-mortem* examination, both naked eye and microscopic.

The book proper is in two sections—pathological and clinical—but the greater part of the work consists of elaborate tables giving the recorded facts of a large number of undoubted cases collected from various sources. We fear that these tables will hardly meet with an appreciation proportionate to the labour which their compilation must have entailed, as, with the exception of the statistician, we doubt whether many will have the enthusiasm to carry them through such formidable lists.

In the pathological section there is not much addition to our knowledge concerning the appearance and nature of these growths, but the descriptions are very clear and concise, and we would like to give special praise to the really

beautiful reproductions of micro-photographs of the various conditions referred to. They are collected together at the end of the book.

The two chapters dealing with signs and symptoms will, no doubt, prove of most general interest. The clinical symptoms of pain, cough, sputum, respiratory difficulty, irregular fever, and cachexia are those on which most stress is again laid. With the exception of the importance of the use of *x*-rays, and possibly of the bronchoscope, there is no attempt to point out a "royal road" to diagnosis, and Gerhardt's advice is quoted—"Always to suspect tumour in persons of advanced age where tuberculosis is not likely and cannot be found by ordinary examination, where there is cough with bloody expectoration." Perusal of the literary portion of the book will occupy only a few hours, and we cordially recommend it to those who may chance to meet a case presenting the old description of "anomalous signs and symptoms."

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*Clinical Electrocardiography.* By THOMAS LEWIS, M.D., D.Sc., F.R.C.P.; Assistant Physician and Lecturer on Cardiac Pathology, University College Hospital; London: Shaw & Sons. 1913. Demy 8vo. Pp. viii + 120.

THIS book is a companion volume to the author's previous work entitled "Clinical Disorders of the Heart Beat." After careful perusal of it one is forced to the conclusion that the only satisfactory method of gaining a knowledge of electrocardiography consists in obtaining an electrocardiograph and working with it oneself; or, perhaps, even better still, in attending a clinique, where the electrocardiograph is in use, and obtaining a course of lecture demonstrations on the methods of using the instrument, and on the interpretations of the resulting cardiograms. Once one has had this experience we have no doubt that the present volume would seem as an invaluable guide to further study, but without such experience—and the reviewer frankly admits that he has never

used an electrocardiograph—it is practically impossible to obtain a comprehensive or clear knowledge of the subject from reading.

As far as we can judge, the writer has stated his facts clearly and fairly, but the recital is withal somewhat dry, and it is hard to agree that in many cases the examination is not superfluous. Possibly this method of examination has an important future before it, but in spite of the honest conviction of the writer of this book we find it hard to believe that the present practical value resulting from it is sufficient to induce one to devote too much time to acquiring a mastery of its technique. To specialists the volume will, no doubt, largely appeal. We again state that we believe the book to be an excellent summary and judicial statement of all that is known on the subject of electrocardiography.

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*Laws of Sexual Philosophy.* An Exposition of Eastern and Western Sexual Science from Medical, Moral, and Social point of view. (Designed for the Students of Gynæcology and Obstetrics.) By J. L. CHUNDRA, L.M.S. (Calcutta University); Rustomjee Scholar, Emeritus Professor of Medicine and Clinical Medicine, College of Physicians and Surgeons of Calcutta and India respectively; Consulting Physician to Calcutta Free Hospital, and Victoria Refuge Hospital, &c., &c. Calcutta. 1913. Pp. v + 208.

THE contemplation of the title-page and frontispiece of this interestingly curious—and decidedly Oriental—volume, and a glance at its unfamiliarly-phrased contents, bring prominently into the field of our mental vision suggestions of the rapidly progressive narrowing of the girdle of our planetary globe, and the increasing closeness (we avoid the term *intimacy*, very consciously, but without prejudice) of contact between the mechanical West and the mystical East. And the interest of such reflections is emphasised in the present case by the fact that we have never forgotten the importance of the concen-

trated truth : *Ex Oriente lux*. Of course, since the date of the establishment of the claim of the West to the "loot" of the East, the wisdom of the philosophy of the latter has often been emphatically, and even brutally, depreciated. Still there remain some thinking people who do not exclusively appreciate the spiritual inspiration afforded by the bike, or the motor, or even that furnished by the 'plane; and who would fain look forward to a "revival" of the modes of thought, and wireless waves of the propagation of the same, which produced, in their respective periods, the most impressive and commanding personalities known to history; and which have left in their respective wakes the most imposing extant monuments of thought and of achievement, of artistic inspiration and of instructive practical wisdom—deservedly so named.

It is one of the characteristics of the phase of Western materialism which is specially represented in its modernistic theory and practice of the healing art: that the emotional aspect of sexual relationship is kept as completely as possible out of sight; and when forced forwards from the background to which it has been so very artificially—and tyrannically—relegated, the revealed facts and data, thus unexpectedly exposed, are at once subjected to attempts (decidedly vain efforts!) at weight and measurement approximating to the unsympathetic rigidity of the application of the metric system. But such foot-standard has not been successfully made to fit; and most assuredly it never shall. The sexual instinct, or appetite—commentators and doctrinaires may apply what terms they choose—was given to insure the preservation of the species, as surely—and to seeing eyes as obviously—as was the appetite for food with a view to preservation of the life of the individual. As the former has been evermore associated with the most lofty emotions of which humanity has proved itself capable, and has had its attraction emphasised by the fact of being baited with the highest attainable source and degree of physical pleasure, there is every reason why it should be exalted in the contemplation of every true citizen of the world's coming

democracy, instead of being thought of as a manifestation of the moral uncleanness of humanity. We have no doubt whatever that the very unhealthy secretiveness, and persistent avoidance of the application of the most elementary hygienic practice, maintained through the long series of centuries with regard to the sexual organs—and especially those of the female—should be credited with the primordial genesis and subsequent ravages of the pathological processes which are now being wholly credited to the account of the much-libelled *coccus* and *spirochæte*. Anyway, the fact is now before us, that the other western nations are rapidly advancing in this domain of enlightenment; while Great Britain is, as usual, hobbling up clumsily in the rear—while ready to claim a lion's share of credit if the conditions of future environment prove favourable. This fact could not fail to reveal itself to any observer dowered by Nature with the gift of seeing, who had an opportunity of glancing over the exhibits of the great *Aufstellung* held in Dresden two years ago; of which the sexual library and museum of venereal pathology collectively made one of the most distinctive, as well as instructive, of outstanding features.

But the Oriental still occupies a view-point very far removed, indeed, from that hitherto occupied by the average citizen of our Occidental communities. In consonance with this circumstantial fact is our author's choice of title. PHILOSOPHY, rather than *Physiology-cum-Pathology*, is connotative of the attitude duly appropriate to those—even still very much mystical—regions, many of the constituent communities of which waged fanatical warfare during untold centuries for the maintenance of the superiority of the respective claims to adoration of the *Yoni* and the *Lingam*. And the whole treatment of the—literally vital and vitalising—subject maintains its appropriate diametrical remoteness. Nevertheless, as regards the actual scientific (and even philosophic) nature of the bulk of the contents of this volume, we do not here feel called upon to bow with enforced humility. The writer has given us a good many items of the sacred *Wisdom of*

*the East*, in illustration of the problems of one of the most assiduously cultivated departments thereof; but we confess that we would have been more effectively impressed if he had conveyed them in carefully phrased and grammatical English. At her Western debut, the Oriental Minerva of sexual Wisdom might well have been presented in a well-fitting and gracefully-flowing costume—even improved, with characteristic tropical profuseness of decoration by a richly embroidered train of illustrative comment and quotation. Of the latter there is a great deal—but chiefly derived from Western sources.

The frontispiece—a Murillo-like crescent embracing in its concavity a voluptuously graceful presentation (hardly less so for being somewhat modernistic and Frenchified) of the Queen of Heaven and of Night; with some appropriately illustrative stars in the background, and ushered in with an appropriate motto of metrical dedication:—

Oh Thou! Mother of Procreation,  
The mystery of the Universe regulation  
Unknown and Unknowable revelation: [*sic*!]  
Thou'rt the main Spring of Creation,  
I dedicate this to thee, with reverence and admiration.

Holding, as the author confessedly does, that “to clearly diagnose is to destroy,” the language of mysticism and alphabet of moral hieroglyphics must necessarily figure largely in the structure and decoration of a doctrinal edifice of his construction which was destined to comprehend and illustrate one of the most profound subjects of human thought—as well as one of the broadest of human interests. The writer, as he is prone to embroider and adorn his matter with suitable gems of history and of dogma, might pardonably, we think, have pointed out this connection: that the Crescent Moon had been the pagan Byzantine symbol centuries before the introduction of Christianity; that its retention in relative prominence was permitted, or winked at, by Constantine the Great and his advisers (for the *political* leverage afforded by its *hypnotic* influence) after the victorious elevation of the Divine *Labarum*; and that its presence above the glittering dome



of St. Sophia was tolerated by the triumphant Turks on entering into possession—always more liberally disposed towards the ceremonial observances and practices of their contemporaries than ever were their Christian neighbours, *pace* the cumulative testimony of hosts of Western historians to the contrary! (This fact, which must interest inquiring readers at the present epoch-making juncture of the *solution* of Turkish dominance in South-eastern Europe, permanently undermines, of course, the popular fallacious tradition of the source of the antagonism of “*The CRESCENT and the CROSS*”; and of the Mohammedan origin of the former, and its adoption as their religious symbol by the leaders of Islam.)

The Oriental's exalted conception of the importance and dignity of the sexual functions, and their organs, is manifested in every line, as well as paragraph, of the present volume. The author quotes approvingly the aphorism of the famous (Western) Fernel : *totus homo semen est*. He affirms that “Woman is the keystone in the eugenic arch. Her quality determines the character and strength of our human superstruction. (Here, of course, the eugenists must have their say—probably, one of approval?) A specimen of “*Author's remark*” is : “Menstruation is Nature's wash day—the poorest blood in the circulation is thrown out, for menstrual blood possesses none of the vital properties peculiar to that which escapes when hæmorrhage occurs”—a statement of alleged fact which seems to suggest that his physiology is hardly up-to-date, as standardised from the Western view-point. He emphasises the fact that the sexual “appears to be the most sociable and lest selfish of all instincts. It is a much more noble, because less purely selfish instinct than hunger or thirst.” The enunciation of the prospective reward of its realisation may be all-too veracious in its practical *philosophy*, but it cannot be described as exhilarating to coming candidates to read (with heavy “underscoring”) that ; “It is an universal law :—*a bad husband is cursed with a good wife and conversely a good husband with an ill-tempered wife.*” (We are not quite

sure whether the eugenists have taken account of the working of this suggestively “*magnetic*” law of polar contrasts.) We learn that : “the genesaic act, accomplished normally and completely, leaves at its close a condition of well-being . . . from the most troubled disposition of mind a tendency to gaiety and warmth of heart.” The equilibrium of this statement might, perhaps, be improved by one of the immortal Stagirite :— “*Omne animal post coitum, gallo excepto, triste est.*” The various devices for “prevention” are catalogued, from the methods of Onan down to those of the New York *Perfectionists*. Many of the curious manifestations of ancient and mediæval views of menstrual uncleanness are referred to. Probably the most absurd of all is one that is not mentioned here. Matthiolus, the famous commentator of Dioscorides, and *Father of Modern Therapeutics*, tells us that Roman patrician ladies originally introduced lap-dogs, and his testimony regarding the practical object of the original personal culture of those dainty favourites is thus produced by Ulysses Aldrovandus, the *Father of Modern Natural History* :—“Cum ipse noverit mulieres, quæ non aliâ de causâ catellos Melitesios domi alebant, quam ut, dum mensibus laborarent, ea excrementa tingerent quæ concreta pudendis partibus inhærebant, quos canes cunnilingos vocant, nec tamen, ob hanc causam, aliquo rabiei periculo agitatae sunt.” Such was the function of the primordial lap-dog of the luxurious Roman *dama* of the days of Shakespeare. And thus was the origin of the horrors of *hydrophobia* popularly accounted for in the same period. The idea of the impurity of menstruation seems to have prevailed in every primitive community of human beings. Our author does not neglect the strange coincidence of the lunar time period. He might have added the Pythagorean item of mediæval mysticism : that the *same periodic number* (of the *lunar* and *menstrual* cycles) amounted to the sum of the digits, beginning with the “divine” *unit*, and ending with the sacred and symbolic *seven* ( $1 + 2 + 3 + 4 + 5 + 6 + 7 = 28$ ) ; the latter representing the actual number of

the planets which presided over, and continuously regulated, all *sublunar* phenomena and events (and of which the full Levantine importance is ever and anon making itself felt in the pages of Holy Writ).

The classification here made of human types, male and female respectively, is still more Oriental in its remoteness from the Western view-point and surface standard. The same remark applies to the author's observations and instructions regarding sexual intercourse. He recommends, "generally speaking between the ages of twenty and thirty," that it be "repeated every other day." He mentions, of course, the limiting periods laid down by : Mohammed, once a week ; Zoroaster, nine days ; Solon and Socrates, ten days ; Luther, twice a week. Lists of articles of diet, of drugs, and of hygienic practices which promote sexual desire and sexual vigour, are here provided. For instance : "The practice of rubbing 'sindur'—red oxide of mercury—between hair locks on the forehead, amongst Hindu women is highly scientific. It keeps the head warm and stimulates sexual desire."

Our author treats marriage with the highest—even devotional—respect ; referring to it as "a *divine institution*" (in face of the depressing law of pairing already quoted), and also states that : "True marriage is the *happiest condition of an earthly existence*, and is conducive to a long life and green old age." And, in connection with puerperal conditions of difficulty, we were deeply impressed by his reference to the reply of the almost superhuman Corsican, when asked by Dubois in the very difficult labour of Marie Louise : "Whether, if matters come to an extremity, he should save the mother or the child ; Napoleon, notwithstanding his desire for the birth of an heir to his dynasty, replied—'The mother, it is her right.'" We would specially commend to our British contemporaries—who have recently commenced the *discovery* of that extraordinary leader of men—a deliberate mental contrast of this reply to that of Henry VIII. of England, under circumstances of striking similarity ; bearing in mind at the same time that the

“bluff King Hal” was the most popular of all English monarchs, and the true founder of “modern” England.

The author may, indeed, be pretty truthfully said to have touched every aspect of his subject; although we cannot conscientiously compliment him on having “made up his brief,” or mastered the fundamental data on which the whole structure depends for its ultimate stability. Still we believe that there is a kernel of sound practical “*philosophy*” in the statement that: “The married woman who tells her physician that she does not enjoy connubial bliss is the woman who *lied to herself at the altar* and swore to love, honour, and obey the man she thought she could ‘put up with.’” He quotes, with apparent approval, Janke’s “scientific” *principle* of “crossed inheritance”; who thereon “advises women who long to have a boy to drink a glass of champagne before fulfilling their conjugal duties in order to gain sexual vigour.” He seems, however, to *contrast* unnecessarily the Oriental view: “The Hindu philosophers, on the other hand, conclude that the parent possessing the greatest amount of vital force will confer the sex of the offspring.”

“Sexual inversion” receives full attention, as is inevitable in an *Oriental* treatise, and with illustrative allusions to the homo-sexuality of Socrates, of Plato, of Michelangelo (*et hoc genus omne*)—depressing examples of the combination of the highest moral ideals, and artistic enthusiasm and capabilities, with life-practice of inexplicable as well as unspeakable vileness and perversity. The volume, though very full, does not refer to the perversion of hetero-sexuality which was offered by Levantine tradition in explanation of the sweeping sentence of the universal deluge. The book of Genesis tells us that the sons of God came down unto the daughters of men; the sequel is not revealed: the latter adopted the rôle of *incubus* instead of the natural one of *succubus*. And an Oriental treatise would be made more instructive by inclusion of the curious fact of *philosophic* history, that: in the days when Alexandrian *Sophists* were the

guardians of the world's concentrated wisdom, one of their geometers—EUCLID by name—undertook to deduce from the original (female) source of human life, the spatial laws which regulate the measurements of all forms of inanimate matter. Few geometers, and (if possible) still fewer gynæcologists, of the twentieth century, we venture to opine, have hitherto recognised in Euclid's first diagram a hieroglyph of the *pudenda* of the human female. But thus has Eastern "PHILOSOPHY" been evermore screened off from the gaze of the "profane," for the more subtle enjoyment of its esoteric disciples and evangelists.

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*Hints for Regimental Medical Officers of the Territorial FORCE.* By CAPT. M. F. GRANT, R.A.M.C. London : Forster Groom & Co., Ltd. 1913. Pp. 40.

THE author of this little book is well qualified for the task which he has set out to accomplish. He has written this work with a view to aiding those who have passed through an initial course at the Territorial Force School of Instruction, and directs the medical officer in the way he should set about doing his duty rather than what he should actually do.

In the opening pages the author clearly lays down the relation of the Medical Officer to the Commanding Officer, and points out that all orders to the men, except those of the Royal Army Medical Corps, must be made through that officer. He then sets out the various duties of a medical officer as regards sanitation, recruiting, and annual training, and gives useful hints as to suitable subjects for lectures, &c. Finally, he shows the *personnel* under the direct command of the medical officer, and the equipment at his disposal.

Wherever possible, references are given to official publications, and the pages are interleaved so that notes may be added as required. The book seems admirably suited to the purpose for which it is published.

## PART III.

### MEDICAL MISCELLANY.

*Reports, Transactions, and Scientific Intelligence.*

#### ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—WALTER G. SMITH, M.D., F.R.C.P.I.

General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

#### SECTION OF SURGERY.

President—R. D. PUREFOY, M.D., F.R.C.S.I.

Sectional Secretary—C. A. BALL, M.D., F.R.C.S.I.

*Friday, May 9, 1913.*

THE PRESIDENT in the Chair.

*Pole Ligation for Hyperthyroidism* (with lantern slides).

MR. W. PEARSON read a paper on the above, giving a *résumé* of the histological changes in the thyroid gland which accompany the clinical evidences of hyperthyroidism, and advocating surgical measures as the most rational treatment in the vast majority of cases. The anatomy of the vascular and lymphatic circulations of the gland was then described in detail, special attention being directed to the distribution and anastomoses of the blood-vessels, and their relationships as well as those of the lymphatic vessels to the capsular investment of the thyroid. A knowledge of these points is essential if pole ligation is to be effective. A description of Mayo's ligation of the superior thyroid vessels and Jacobson's "pole ligation" was followed by an account of a severe acute case in which the bilateral pole ligation was performed with most satisfactory results, no other special treatment being adopted.

The paper concluded with some observations on technique and after-treatment.

MR. W. I. DE COURCY WHEELER congratulated Mr. Pearson on the way in which he had brought before them the lymphatic distribution of the thyroid gland. If the dis-

tribution in the thyroid was as Mr. Pearson described, there could be little doubt of the efficacy of the operation of pole ligation. He recalled his experience of treatment in a case which was considered unsuitable for partial thyroidectomy which was followed by marked improvement of the condition. A point of interest was that in some cases of hyperthyroidism many of the clinical symptoms are often absent or do not present themselves until the patient was very far gone. He affirmed that Coffey's blood count in such cases was useful for diagnostic purposes. Another point of interest was the wonderful improvement which followed partial thyroidectomy in exophthalmic cases. Since it had been pointed out that the wound should be treated as a suppurating one, and since drainage in conjunction with liberal uses of saline had been supplied, the mortality had become inappreciable. Once the bad symptoms had passed off the patient might be said to be well in from three to four days. He had experience of a case of this kind in his own practice.

DR. H. STOKES inquired if Mr. Pearson could give the mortality in those cases which were not treated.

MR. A. A. M'CONNELL inquired if there was any histological difference in the gland after ligation. Recent experimental work, he thought, showed that in some cases in which the arteries were ligatured there was no histological difference, but where the veins had been ligatured there was marked histological difference. He suggested that it was possible that the ligature of the latter was a more important feature than the former. In cases where both were ligatured the histology was more distinct.

DR. KEEGAN inquired if the operation would be suitable for cases of large cystic conditions of the thyroid in young children where there was a good deal of hypertrophy of the thyroid with some dyspnoea. He would also like to know what points Mr. Pearson would lay stress on in the preparation of a patient for the operation, and what anæsthetic he considered most suitable.

MR. GUNN said he had seen the patient referred to both before and after the operation, and he would like to add his testimony to the success of the operation. He did not consider that any surgeon would have attempted an operation for the removal of the gland from a patient in a similar condition. He agreed with Mr. Pearson with the exception of

one point—*i.e.*, the suggestion that ligation of the pole might be done in early and mild cases. He considered that partial thyroidectomy was safe in such cases, and he would be inclined to keep the pole ligation for the bad cases. He mentioned that Mr. Pearson had used a local anæsthetic in one case, but this type of anæsthesia was not usual in these cases.

THE PRESIDENT said that these cases had a very great interest for any one concerned as he was with obstetrics. What the relation was between enlargement of the thyroid and arrested, diminished, or suppressed menstruation he had not a clear idea, but that there is a connection he was perfectly satisfied. It occasionally fell to his lot to prescribe for patients suffering from amenorrhœa, in whom perhaps there was not a considerable enlargement of the thyroid, and in a number of these cases that he could recall general treatment had resulted in a reduction of the thyroid and a return of the menstrual flow. He had seen some cases of very great enlargement of the gland in women comparatively young, and who had borne a comparatively large number of children at short intervals; but whether these cases would have any connection with the condition of exophthalmic goitre he could not say. One of the worst cases of the kind that he could recall was that of a girl, aged nineteen, who struggled through typhoid fever, and a year afterwards, during which menstruation did not return, exophthalmos occurred. That patient was under observation and treatment for two or three months when the menstrual flow reappeared with very marked improvement in her condition, but she was by no means cured.

He remembered another case of exophthalmic goitre, attended with wasting and profuse perspiration at night, marked protrusion of the eye-balls, with scanty menstruation. The patient was childless. She was not treated, and was lost sight of for about three years. When next seen the condition was much improved, although it was likely that she had not undergone any treatment.

MR. PEARSON, replying, said there was no doubt that ligation was efficient in the great majority of cases. The mild cases would get quite well, although many relapse after a few years. In recommending the operation for mild cases he did not mean that every mild case should be operated on,



but he suggested that every mild case that had been medically treated for a definite length of time should be submitted to ligation, because it offered a better chance of getting well, and it was simpler and less radical than partial thyroidectomy. There were evidences of histological changes, and he mentioned one case recorded by Murphy where, after the ligation operation on the two poles, the entire thyroid became a malignant mass, so that apparently there was a danger in rare cases of the change being too excessive. The blood count which Mr. Wheeler had found of value had been given up by the Mayo's. The question of drainage was, of course, important, but not in ligation operations. The important thing in this operation was to choose the right time, when the patient was not in a severe exacerbation. To avoid rough handling of the gland was also important. Massage and pulling of the gland about should also be avoided. Rough handling, he considered, had more to do with bad symptoms than inefficient drainage. With the severe cases that have not been operated on the mortality was high. The greater mortality he attributed to what were looked upon as the terminal changes. He did not think ligation would be indicated in the cases mentioned by Dr. Keegan. As to preparation for the operation, he looked on absolute rest, diet, and drugs as important, and he considered *x*-rays the most useful of all treatment. In his case rectal feeding, digitalis, and the application of ice-bags was the only treatment resorted to. He found that local anæsthesia worked very well, the only objection being that bleeding appeared to be greater than if general anæsthesia was used. He considered that it was in the severe cases that ligation was the most useful.

The remarks regarding the relationship with amenorrhœa were most interesting, and he considered that the whole ductless systems of the body were closely correlated. The occurrence of a slight amount of goitre in young women was very common, but the condition usually subsided without treatment. Acute fever and general physical exhaustion he looked upon as forerunners of this condition.

THE PRESIDENT having to leave, SIR JOHN LENTAIGNE took the Chair.

*Some Cases of Intestinal Stasis.*

MR. W. I. DE COURCY WHEELER read a paper on the various

abdominal angulations and kinks associated with the term intestinal stasis. He based his conclusions on a study of twenty recent abdominal cases, and illustrated his remarks with lantern slides.

Stress was laid on the association of various intra-abdominal lesions, and he condemned the practice of performing the operation of appendicectomy with great rapidity. If an appendix lent itself to rapid removal by its anatomical position and absence of gross pathological changes, either the operation was not justified, or, more likely, the symptoms were equally due to such conditions as Lane's ideal kink or Jackson's membrane. Mr. Wheeler was able to trace Jackson's membrane in direct and unbroken communication with the right margin of the omentum, and he accepted the theory of Gray and Anderson that it was nothing more than the lateral margin of the great omentum pulled out during the descent of the cæcum. The congenital theory as to the formation of this and other bands and membranes forming kinks was satisfactory and comprehensible. Dilatation of the duodenum was often overlooked, and was due to developmental adhesions at the duodeno-jejunal juncture or to a band stretching across the duodenum to the right of the superior mesenteric artery.

Jackson's membrane, so far from helping to fix the cæcum, often caused a marked kink at the hepatic flexure, with prolapse and dilatation of the cæcum. Cases with slight or marked visceroptosis, with splashing cæcum, and diffuse right-sided discomfort or pain, almost invariably had a well-developed Jackson's membrane. The membrane should be divided if causing exaggerated angulation of the hepatic flexure. The cases with a little experience can be diagnosed before operation.

Left-sided pain was often due to an exaggerated kink of the pelvic colon rendered worse in females by the implication of the left ovary in the line of fusion between visceral (mesocolic) and parietal peritoneum which caused the kink. A plastic operation on the mesocolon relieved the kink, and often cured constipation in the most intractable cases.

In enteroptosis cases the conditions described were most marked. Gastro-enterostomy, like appendicectomy, was often performed without having regard to developmental adhesions and obstructions of a congenital kind below the

duodenum. It was a simple and rapid operation to perform, but was seldom indicated beyond cases of pyloric obstruction. Until recently, gastro-enterostomy was too frequently performed, and the after-results were not as favourable as was generally supposed.

Mr. Wheeler thought the whole subject-matter required riddling and discussion, but that certain points were definitely settled, one of the most important being the definite presence of abnormal angulations and rotations of the gut, which, when relieved by operations, caused the disappearance of symptoms in a number of obscure abdominal cases. The relief of constipation by a plastic operation on a developmental kink was worthy of attention.

#### *X-ray Diagnosis of Abnormalities of the Intestinal Tract.*

DR. MAURICE HAYES read a paper illustrated with lantern slides. He stated that in all cases the data furnished by the *x*-ray examination should be carefully analysed in conjunction with the previous history and the subjective and objective symptoms of the patient. Radiography should be employed as an aid to, and not as a substitute for, the ordinary methods of diagnosis.

To interpret accurately the different shadows cast by the intestines requires much practice and experience. The shadow of a loop of the bowel, when viewed obliquely, gives the idea of an existing kink, when in reality the curve may be the arc of a circle which may not be at all sufficient to delay the passage of the intestinal contents.

In spasmodic strictures of the œsophagus the bismuth food may be seen to enter the stomach with a sudden rush when the spasm relaxes.

In cicatricial stenosis the food passes in a thin stream, and peristaltic movements are violent.

In malignant strictures the peristaltic movements in the neighbourhood of the growth are feeble. Reverse peristalsis is often present, and enlarged glands can be observed near the gullet in the posterior mediastinum.

As the position of the umbilicus varies, a transverse line between the summits of the iliac crests would be the most accurate land-mark. In the erect position the greater curvature of what may be termed the "normal" stomach reaches this line. Radiography is of doubtful value in determining

the presence or absence of gastric ulcers. A point of maximum tenderness to pressure over a particular part of the stomach or duodenum is not strong presumptive evidence of an existing ulcer. Adhesions which fix the terminal part of the ileum to the right pelvic brim can be detected by *x*-ray examination, and the latter is the most valuable method of accurately determining the position of the large intestine. The duodenum is often seen to be much dilated—especially when there is obstruction to the free passage of food into the jejunum, or when there is delay in entering the cæcum.

DR. FARNAN said he had gone into the literature, and was not satisfied that the clinical symptoms attributed to these kinks were really due to them. It was well known that rest in bed did improve the condition. He was not satisfied that the performing of plastic operations and the removal of them will improve the condition, nor would the removal of the adhesions improve it.

THE CHAIRMAN (SIR JOHN LENTAIGNE) said he took a deep interest in this subject, and his opinion largely coincided with Dr. Farnan's. He was not satisfied that the opinion put forward by Lane was proved. There were three main schools of mechanical theory of this affection—*i.e.*, the English school, led by Lane, the Danish and the French. All the schools acknowledged that there were cases in which symptoms similar to those complained of in these instances are present without evidence of stasis, and that there may be some other cause. The Continental school say that most of the trouble is due to putrefactive changes in the intestine and that the condition is due to intestinal toxæmia. That there was a good deal of truth in this there was not the slightest doubt in his mind.

#### SECTION OF OBSTETRICS.

President—SIR ANDREW J. HORNE, F.R.C.P.I.

Sectional Secretary—G. FITZGIBBON, M.D., F.R.C.P.I.

*Friday, May 23, 1913.*

THE PRESIDENT in the Chair.

*Some Sequelæ of Labour.*

DR. BETHEL SOLOMONS read a paper on the above, in which

he submitted the results of examining 543 primiparæ on the sixteenth day of the puerperium.

THE PRESIDENT said the paper opened up a new field for obstetricians to more or less insist on the thorough examination of their patients before discharging them. He was astonished at the very high percentage—*i.e.*, 48—of lacerations of the cervix uteri which were found to have occurred in primiparæ, but, of course, the lacerations varied from one-third of an inch to one inch. He considered that if that large number of lacerations of the cervix occurred one would expect severe post-partum hæmorrhage, and it should cause the obstetrician to try and find the origin of the hæmorrhage, and he would deem it a duty to stitch the cervix immediately.

He thought that most of the backward displacements he frequently found were congenital and unimportant, and no matter what treatment may be carried out, at the end of two months if the patient is again examined this displacement will be found to have recurred. He suggested that if the patient was examined two months after confinement it could be ascertained if there was any real displacement, and an opinion could then be formed as to the treatment necessary. He looked on it as a duty to suture a ruptured perineum at once. Catgut sutures very often become absorbed too soon, and in his practice he invariably used the ordinary silk-worm gut, and found it successful. He had not yet adopted "early rising," and from what he had heard he would be chary in doing so.

Although Dr. Johnson put on forceps, force was not applied for some time afterwards. He suggested that the forceps was used merely as a dilator.

DR. HASTINGS TWEEDY said that Dr. Solomon's statistics of lacerated cervixes would come as a surprise to many. It had been asserted by an eminent Fellow of the Academy that such tears did not occur in normal delivery. This view was in the main true, but was subject to exceptions, for he (Dr. Tweedy) had reported tears after perfectly normal child-birth.

Posture had no effect in bringing about a condition of retro-displacement, it owed its origin to the presence of a full bladder or to congenital defect in the majority of cases.

An improperly applied binder was another direct cause, and one that was seldom appreciated.

Before the application of a binder the uterus should be sharply anteflexed, and the third pin should be placed so as to groove the binder above the uterus and fix the latter in a condition of anteflexion.

Pulmonary embolus was a septic condition, and did not arise in consequence of getting the patient up too soon. It was, moreover, associated, in his experience, with a quick pulse. He had no faith in the power of calcium lactate to stay the progress of a septic clot.

PROFESSOR THOMPSON said that he did not consider that calcium salts administered by the mouth or hypodermically had the effect of hastening coagulation.

DR. SPENCER SHEILL said he had seen many backward displacements of the uterus produced by tight lacing of the corset before complete involution had taken place. The maximum coagulation resulted from calcium salts if administered at broken periods.

DR. ALLEN said he had never found calcium salts of much use in helping coagulation. He had found that in suturing the perineum catgut alone does not give as good results as silk-worm gut, or a combination of both. He inquired if the time at which the suturing is done has not an effect on the morbidity. While one did not like putting forceps on the undilated os he pointed out that Dr. Johnson stated that he had proved that he could do so without any evil effect.

DR. SOLOMONS, in replying, said that his experience of the calcium salts only extended to cases of threatened abortion, miscarriage, or premature labour, in which he had found them of very little influence. He was unable to say whether perineums united better when stitched immediately or some hours after labour. He was convinced that when forceps was applied to the cervix which was not fully dilated a tear always resulted. He agreed that 48 per cent. of tears in his series was greater than the ultimate results would have shown, but he had pointed out that the paper was based on examinations made sixteen days after confinement, and he felt sure that a great number of the tears then apparent would afterwards heal. He considered that a capable nurse could apply a binder

better than a doctor who gets so much less practice. He thought that although the constant dorsal decubitus was the most common cause of post-partum retroversion, he did not exclude insufficient emptying of the bladder and other conditions as possible predisponents.

*Breast-feeding of Infants.*

DR. ELLA G. H. WEBB read a paper on this subject.

PROFESSOR THOMPSON said the consideration of the physiological aspect of the question was difficult as so little was known about the physiological stimuli that promoted the secretion of milk. He referred to a paper by Dr. Janet Lane-Clayton, recently reviewed in the *British Medical Journal*, on "The Investigation of the Question of Milk and Lactation." No one had yet succeeded in discovering a nerve, the cutting or excitation of which interfered in the slightest with the secretion of milk. The general opinion was that if the mother was getting sufficient ordinary food she produced as much milk as she would on any special food. He was not a very strong believer in the influence of proteins in increasing the constituents of milk. The only constituent of milk that could with certainty be influenced by the diet was the fat. It was quite possible that milk as regards proteins might become undesirable from an alteration in the relative amount of caseinogen. The practical points brought out in the paper struck him as very useful.

DR. HASTINGS TWEEDY said mothers and nurses were very fearful of starving the infant. He had observed that breast milk became (as a rule) very scanty on about the sixth or seventh day, and it was at this time bottles were usually begun. The introduction of bottle-feeding forty-five years ago constituted the most disastrous experiment that the human race ever embarked on. Its condemnation did not entirely rest on the high rate of infantile mortality; more serious still were the ill consequences in after-life inflicted on the infant who worried through a succession of stomachic disorders, or other debilitating illnesses. He could declare, from observations made in his own practice, that bad teeth in the adult seldom occurred in those whose infancy and young childhood had been free from disease.

It is evident, too, that permanent defect cannot be limited to the teeth. Bones, muscles, brain, skin, &c., must also suffer.

Children can deal with excess of some particular constituent in food; this is shown by the splendid results obtained in the whole-milk method of feeding. He did not think that infants should be placed on measured amounts of food. Let them be given what they can digest, at intervals not shorter than three hours.

If they throw up, regurgitate, or get diarrhoea, of the kind which immediately follows on ingestion of food, urgent indications are thereby afforded that a smaller quantity should be given.

More infants were injured by excess than by depreciation.

THE PRESIDENT said it was the experience in maternity hospitals that a very large majority of women do nurse, and he believed the mothers amongst the poor were able to nurse for a very long time. Food, undoubtedly, did seem to militate against the secretion of milk or the reverse. He recalled his experience when wet nursing was in vogue—*i.e.*, that over-feeding was one of the chief means of insufficiency of milk. He agreed with Dr. Webb with regard to the application of alcohol to the nipples in preparation for nursing, and also as regards the pulling out with the fingers instead of with a breast pump or other such instrument.

#### THE BEDSIDE MANNER—LATEST.

*Doctor (calling at hospital, ten minutes after the dinner-bell has gone, to "dress" his patient, in private ward).—"I say, that's a fine game at Lords. By Jove! I remember playing in a holiday match at Horsham. They had a couple of Sussex men bowling for them, Vine and Killick. I took the first over from Killick. First ball, dead on middle stump; second ball, dead on middle stump; third, dead on middle; fourth, glanced it to leg—four; fifth, cut it to boundary—four; sixth, glanced it to leg—four! Twelve in first over—not bad, what? St. Mary's men didn't bluff a catch the whole day and we won by two runs. Here, nurse, where's my overall and rubber gloves? Let's get to work, for goodness sake."* —*Punch*, June 18, 1913. [But, dear Mr. Punch, is this fact or fancy, a joke or a libel?—

"Mimule, tolle josos!—Non est jocus esse Malignum."—*Ed.*]



# SANITARY AND METEOROLOGICAL NOTES.

## VITAL STATISTICS

*For four weeks ending Saturday, June 14, 1913.*

### IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended June 14, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 18.5 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, June 14, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000 :—

COUNTY BOROUGH, &c.	Week ending				Average Rate for 4 weeks
	May 24	May 31	June 7	June 14	
<b>27 Town Districts</b>	<b>19.2</b>	<b>16.6</b>	<b>17.1</b>	<b>18.5</b>	<b>17.8</b>
Dublin Reg. Area ...	21.5	16.0	15.9	20.8	18.5
Dublin City ...	21.7	16.1	16.9	22.8	19.4
Belfast ...	17.0	16.7	17.1	17.5	17.1
Cork ...	27.2	17.0	15.0	17.0	19.0
Londonderry ...	11.4	11.4	22.9	15.3	15.3
Limerick ...	21.7	20.3	16.2	12.2	17.6
Waterford ...	22.8	15.2	28.5	19.0	21.4

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, June 14, 1913, were equal to an annual rate of 0.9 per 1,000. Among the 133 deaths from all causes for Belfast are one from measles, one from enteric fever, and 3 from diarrhoea and enteritis of children under 2 years of age.

One of the 25 deaths from all causes for Cork is from scarlet fever. One of the 10 deaths for Waterford is from whooping-cough, and of the 5 deaths from all causes for Newry one is from measles. Among the 12 deaths from all causes for Londonderry are 2 from diarrhœa and enteritis of children under 2 years of age.

#### DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 403,000; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended June 14 amounted to 208—112 boys and 96 girls—and the deaths to 173—83 males and 90 females.

#### DEATHS.

The registered deaths, omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 20.8 per 1,000 of the population. During the twenty-four weeks ending with Saturday, June 14, the death-rate averaged 21.8, and was 2.0 below the mean rate for the corresponding portions of the 10 years 1903–1912.

The total deaths registered, numbering 173, represent an annual rate of 22.4 per 1,000. The annual rate for the past twenty-four weeks was 23.3 per 1,000, and the average annual rate for the corresponding periods of the past ten years was 25.0 per 1,000 of the mean population for all deaths registered.

The total deaths from all causes included 2 from scarlet fever (one being that of a person admitted to hospital from a locality outside the Area), 2 from diphtheria, 4 from whooping-cough, and 2 deaths of children under two years of age from diarrhœa and enteritis.

In each of the three preceding weeks, deaths from scarlet fever were 0, one, and 0; deaths from diphtheria were one, 0, and one; deaths from whooping-cough were 2, 0, and 3; and deaths of children under two years of age from diarrhœa and enteritis were 6, 2, and 3 respectively.

There were 40 deaths from tuberculous disease. This number includes 29 deaths from pulmonary tuberculosis, 6 from tubercular meningitis, and 5 deaths from other forms of the disease. In each of the three preceding weeks deaths from tuberculous disease numbered 30, 25, and 25.

Of 13 deaths from pneumonia, broncho-pneumonia caused 4 deaths, lobar pneumonia 3 deaths, and pneumonia (type not distinguished) caused 6 deaths.

Organic diseases of the heart caused the deaths of 14 persons, and 13 deaths from bronchitis were recorded.

Eleven deaths were caused by cancer.

The deaths of 2 infants under one year of age were caused by convulsions, those of 2 from congenital malformations, those of 4 infants by congenital debility, and those of 8 through premature birth.

There were 6 deaths by accident or negligence, 3 of these being by burns or scalds of children under 5 years, and there were 2 deaths by drowning.

In 3 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 2 infants under one year of age.

Forty-one of the persons whose deaths were registered during the week ended June 14 were under 5 years of age (28 being infants under one year, of whom 10 were under one month old), and 35 were aged 65 years and upwards, including 22 persons aged 70 and upwards. Among the latter were 13 aged 75 years and upwards.

#### STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive

Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmine and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended June 14, 1913, and during each of the preceding three weeks. An asterisk (\*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) <sup>a</sup>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis ( <i>Phtisis</i> )	Acute Poliomyelitis	Total
City of Dublin	May 24	•	•	17	1	-	3	-	1	1	3	-	•	-	14	-	47
	May 31	•	•	14	3	-	3	-	-	3	1	-	•	-	14	-	38
	June 7	•	•	15	4	-	8	-	1	6	1	-	•	-	19	-	54
	June 14	•	•	4	1	-	6	-	-	3	2	-	•	-	6	-	22
Rathmines and Rathgar Urban District	May 24	•	•	1	-	-	3	-	-	-	-	-	•	•	•	•	4
	May 31	•	•	-	-	-	1	-	-	1	-	-	•	•	•	•	2
	June 7	•	•	-	-	-	1	-	-	-	-	-	•	•	•	•	1
	June 14	•	•	1	-	-	1	-	-	-	1	-	•	•	•	•	3
Pembroke Urban District	May 24	7	-	4	-	-	-	-	-	1	-	-	1	*	-	•	13
	May 31	1	-	2	-	-	1	-	-	1	-	-	2	*	-	•	7
	June 7	2	-	2	-	-	-	-	-	-	-	-	2	*	-	•	6
	June 14	3	-	2	-	-	2	-	-	-	-	-	2	*	-	•	9
Blackrock Urban District	May 24	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
	May 31	•	•	3	-	-	1	-	-	-	-	-	•	-	•	•	4
	June 7	•	•	-	-	-	1	-	-	-	-	-	•	-	•	•	1
	June 14	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
Kingstown Urban District	May 24	•	•	1	-	-	-	-	-	-	-	-	•	•	-	•	1
	May 31	•	•	1	-	-	-	-	-	-	-	-	•	•	-	•	1
	June 7	*	•	-	-	-	1	-	-	-	-	-	*	•	2	•	3
	June 14	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	-
City of Belfast	May 24	•	•	37	-	-	2	-	-	7	2	-	•	•	11	•	59
	May 31	•	•	41	-	-	5	-	-	2	2	-	•	•	14	•	64
	June 7	•	•	26	-	-	3	-	1	2	3	-	•	•	11	•	46
	June 14	•	•	35	-	-	6	-	-	3	3	-	•	•	6	•	53

<sup>a</sup> Continued Fever.

### CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended June 14, 1913, 2 cases of measles were admitted to hospital, one was discharged, and 11 cases remained under treatment at the close of the week. In the three preceding weeks such cases were 18, 17, and 10 respectively.

Nine cases of scarlet fever were admitted to hospital, 11 were discharged, there were 3 deaths, and 93 cases remained under treatment at the close of the week. This number is

exclusive of 17 convalescent patients who remained under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital, Dublin. At the close of the three preceding weeks the cases in hospital were 89, 100, and 98 respectively.

Twelve cases of diphtheria were admitted to hospital, 9 were discharged, and there were 3 deaths. The cases in hospital, which at the close of the three preceding weeks numbered 56, 56, and 42 respectively, were 42 at the close of the week.

Four cases of enteric fever were admitted to hospital, one was discharged, and 24 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks being 19, 23, and 21.

One case of typhus was admitted to hospital during the week, one was discharged, and 8 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 7 cases of pneumonia were admitted to hospital, 12 were discharged, there were 2 deaths, and 15 cases remained under treatment at the end of the week.

#### ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, June 14, in 96 large English towns (including London, in which the rate was 11.4) was equal to an average annual death-rate of 11.8 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 14.2 per 1,000, the rate for Glasgow being 15.4, and that for Edinburgh 11.6.

#### INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended June 14. From this Report it appears that of a total of 31 cases notified, 14 were of phthisis, 11 of scarlet fever, 2 of diphtheria, and 4 of erysipelas. Among the 341 cases of infectious diseases in hospital at the close of the week were 110 cases of scarlet fever, 111 of phthisis, 30 of whooping-cough, 46 of diphtheria, 6 of erysipelas, 3 of chicken-pox, and 4 of enteric fever.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of June, 1913.*

Mean Height of Barometer, - - -	30.049 inches.
Maximal Height of Barometer (28th, at 9 p.m.),	30.461 „
Minimal Height of Barometer (5th, at 4 p.m.),	29.601 „
Mean Dry-bulb Temperature, - - -	56.6°
Mean Wet-bulb Temperature, - - -	52.7°
Mean Dew-point Temperature, - - -	49.2°
Mean Elastic Force (Tension) of Aqueous Vapour	.354 inch.
Mean Humidity, - - - -	77.0 per cent.
Highest Temperature in shade (on 17th),	75.1°
Lowest Temperature in Shade (on 12th),	43.4°
Lowest Temperature on Grass (Radiation) (12th)	41.1°
Mean Amount of Cloud - - - -	59.3 per cent.
Rainfall (on 13 days) - - - -	1.198 inches.
Greatest Daily Rainfall (on 19th) - - -	.251 inch.
General Directions of Wind - - -	W., N.W., S.W.

*Remarks.*

A generally favourable month—the first half distinctly cool and changeable, with brisk S.W. and afterwards N.W. winds, and frequent though not heavy rainfalls. On the 9th the wind rose to the force of a fresh gale from S.W. and W.S.W. Anti-cyclonic conditions prevailed from the 12th to the 16th inclusive, and the weather was fine, dry, and warm. On the 17th the thermometer rose in the shade to 75.1° in Dublin, 82° in St. James's Park, London, 85° at Camden Square, London, and 87° at the Royal Observatory, Greenwich. Two days later the maximum in Dublin was 61.7°. Local showers occurred in this city on the 23rd and 26th, thunder, lightning, and hail accompanying one such shower on the afternoon of the 23rd. The closing days of the month were beautifully fine, warm, and bright, with light breezes at first from N.W., afterwards from N.E. During this spell of high summer the barometer stood high and was steady.

In Dublin the arithmetical mean temperature (57.1°) was below the average (57.9°) by 0.8°; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 56.6°. In the forty-nine years ending with 1913, June was coldest in 1909 (M. T. = 54.8°), 1907 (M. T. = 55.4°), 1882 (M. T. = 55.8°), and 1879 (“the cold

year") (M. T. =  $55.9^{\circ}$ ). It was warmest in 1887 (M. T. =  $62.3^{\circ}$ ), 1896 (M. T. =  $61.4^{\circ}$ ), and 1899 (M. T. =  $61.3^{\circ}$ ). June, 1909, established a record for coldness. In 1912 the M. T. was  $57.1^{\circ}$ .

The mean height of the barometer was 30.049 inches, or 0.132 inch above the corrected average value for June—namely, 29.917 inches. The mercury rose to 30.461 inches at 9 p.m. of the 28th, and fell to 29.601 inches at 4 p.m. of the 5th. The observed range of atmospheric pressure was, therefore, .860 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was  $56.6^{\circ}$ , or  $5.1^{\circ}$  above the corresponding M. T. for May, 1913. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.*)  $\times .465$ , the value was  $56.6^{\circ}$ , or 0.8 below the average mean temperature for June, calculated in the same way, in the thirty-five years, 1871–1905, inclusive ( $57.4^{\circ}$ ). The arithmetical mean of the maximal and minimal readings was  $57.1^{\circ}$ , compared with a thirty-five years' average of  $57.9^{\circ}$ . On the 17th the thermometer in the screen rose to  $75.1^{\circ}$ —wind, N E. ; on the 12th the temperature fell to  $43.4^{\circ}$ —wind, N.N.W. The minimum on the grass was  $41.1^{\circ}$ , also on the 12th.

The rainfall amounted to 1.198 inches on 13 days. The average rainfall for June in the thirty-five years, 1871–1905, inclusive, was 1.990 inches, and the average number of rain-days was 15. The rainfall, therefore, and the rain-days were below the average. In 1878 the rainfall in June was very large—5.058 inches on 19 days ; in 1879 also, 4.046 inches fell on 24 days. On the other hand, in 1889, only .100 inch was measured on 6 days. In 1887 the rainfall was only .252 inch, distributed over 5 days. June, 1910, established an undisputed record for excessive rainfall in Dublin—the measurement being 6.211 inches on 19 days. In 1912, 2.595 inches fell on 23 days.

High winds were noted on 7 days, reaching gale-force (8) on the 9th.

The rainfall in Dublin during the six months ending June 30th amounted to 15.097 inches on 104 days, compared with 13.756 inches on 110 days in 1912, 7.729 inches on 80 days in 1911, 18.632 inches on 111 days in 1910, 12.061 inches on 84 days in 1909, 11.729 inches on 107 days in 1908, 12.336 inches

on 108 days in 1907, 12.641 inches on 109 days in 1906, only 6.741 inches on 67 days in 1887, and a thirty-five years' average of 12.030 inches on 96 days.

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At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the arithmetical mean temperature was  $56.5^{\circ}$ , the mean dry-bulb reading at 9 a.m. and 9 p.m. being  $57.2^{\circ}$ . The thermometer rose to  $76^{\circ}$  in the shade on the 17th, and fell to  $42^{\circ}$  on the 12th. The grass minimum was  $37.0^{\circ}$  on the 4th. Rain fell on 10 days to the amount of 1.133 inches, .240 inch being measured on the 19th. The number of hours of bright sunshine registered by the Campbell-Stokes sunshine recorder was 173.5, giving a daily average of 5.8 hours. The corresponding figures for 1905 were 217.6 hours and 7.3 hours; 1906, 210.3 hours and 7.0 hours; 1907, 129.4 hours and 4.3 hours; 1908, 181.4 hours and 6 hours; 1909, 158.7 hours and 5.3 hours; 1910, 139.9 hours and 4.7 hours; 1911, 190.9 hours and 6.4 hours; and 1912, 161.7 hours and 5.4 hours. The mean earth temperature read at 9 a.m. was  $57.7^{\circ}$  at a depth of 1 foot below the surface of the ground,  $54.0^{\circ}$  at a depth of 4 feet.

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At Ardgillan, Balbriggan, Co. Dublin, Captain Edward Taylor, D.L., measured 1.29 inches of rain on 15 days, the heaviest fall in 24 hours being .25 inch on the 9th. The rainfall was 1.03 inches below the average of twenty years, while the rain-days were 2 in excess. Temperature in the screen rose to  $67.9^{\circ}$  on the 28th and 29th, and fell to  $40.0^{\circ}$  on the 12th. Since January 1, 1913, the rainfall at Ardgillan amounts to 15.42 inches, or 2.87 inches more than the average, and the rain-days number 103, or 11 in excess. The extremes of rainfall in June at Ardgillan in recent years have been—greatest, 4.62 inches in 1910; least, 1.20 inches in 1904.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, was .945 inch on 13 (?) days. The heaviest fall in 24 hours was .26 inch on the 5th. The mean shade temperature was  $56.1^{\circ}$ , the extremes being—highest,  $72.5^{\circ}$  on the 28th; lowest,  $39.0^{\circ}$  on the 11th.

Dr. C. Joynt returns the rainfall at 21 Leeson Park, Dublin, at 1.055 inches on 13 days, .225 inch having been recorded on the 19th. The half-year's fall was 14.576 inches on 100 days.



At the Ordnance Survey Office, Phoenix Park, Dublin, rain fell on 14 days to the total amount of 1.385 inches, .300 inch being registered on the 5th. The duration of bright sunshine was 180.4 hours, the largest daily duration being 13 hours on the 17th, and again on the 30th.

At Cheeverstown, Clondalkin, Co. Dublin, Miss Violet C. Kirkpatrick recorded a rainfall of 2.04 inches on 13 days. The greatest falls in 24 hours at Cheeverstown were .43 inch on the 19th and .40 inch on the 9th.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson registered a rainfall of 1.16 inches on 14 days. The greatest fall in 24 hours was .31 inch on the 19th. The mean temperature of the month was  $57.5^{\circ}$ , the extremes being—highest,  $79^{\circ}$  on the 17th; lowest,  $44^{\circ}$  on the 12th. The half-year's rainfall was 18.52 inches on 104 days, compared with 8.20 inches on 85 days in the same period of 1911, and 16.51 inches on 114 days in 1912.

At the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, Dr. A. J. Blake, Resident Medical Superintendent, recorded a rainfall of 1.79 inches on 11 days. The heaviest fall in 24 hours was .54 inch on the 9th.

Mr. W. J. McCabe, on behalf of the Right Hon. L. Waldron, supplies the following record of the rainfall at Marino, Killyliney:—Rain fell on 8 days to the amount of .76 inch, the maximal fall in 24 hours being .30 inch on the 19th. The average rainfall at Cloneevin, Killiney, in the 24 years, 1885–1908, was 1.771 inches on 13.2 days.

Dr. J. H. Armstrong reports that at Coolagad, Greystones, Co. Wicklow, the rainfall was .96 inch on 14 days. The heaviest rainfall in 24 hours was .23 inch on the 9th. In June, 1912, the Coolagad rainfall was 4.92 inches on 23 days.

At Auburn, Greystones, Co. Wicklow, Mrs. Sydney O'Sullivan measured .97 inch of rain on 14 days—.23 inch being recorded on the 9th. A slight thunder shower occurred on the 22nd.

Dr. Charles D. Hanan, M.D., reports that at the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, rain fell on 12 days to the amount of 1.11 inches, the maximal fall in 24 hours being .29 inch on the 9th. The mean temperature for the month was  $54.9^{\circ}$ , the extremes being—highest,  $70^{\circ}$  on the 28th; lowest,  $43^{\circ}$  on the 1st and 3rd. The

mean maximum temperature was  $61.0^{\circ}$ ; the mean minimum temperature was  $48.7^{\circ}$ .

The Rev. Arthur Wilson, M.A., reports a rainfall of 4.16 inches on 15 days at the Rectory, Dunmanway, Co. Cork. The rainfall was .53 inch above the average for June. On the 22nd .70 inch was measured. The rainfall for the completed six months of 1913 amounts to 39.32 inches on 123 days, the averages being 27.06 inches and 116 days. The first eleven days were very unsettled and cold for June, .60 inch of rain was measured on the 4th and .56 inch on the 6th. From the 16th the weather was mostly dry, but rain fell on the nights of the 17th, 20th, and 22nd to the amount of 1.40 inches. The rainfall of the last 8 days was only 0.10 inch. Thunder occurred during the night of the 20th. While the month as a whole was cool, the 1st, 15th, 16th, 20th, and the last four days were very warm.

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#### APENTA WATER IN WEST AFRICA.

As might have been expected, representatives of the medical faculty practising in West Africa express very favourable views of the usefulness of Apenta Water in that country, especially as a preventive and cure of chronic constipation. Professor Dr. Külz, Imperial Government Physician, Cameroons, observes that he has always given the preference to it in the West African tropics on account of its many advantages. He points out that it is specially in hot climates that the European is predisposed to suffer from constipation, partly because of the loss of fluid from the skin, partly by change of diet, and partly as a sequel to the most prevalent of tropical maladies—viz., malaria. The professor testifies that Apenta has proved itself a mild but reliable aperient, free from unpleasant after-effects, and one which patients take readily. Apenta has been found to bear well the heat of the tropics.

#### LITERARY NOTE.

AN important work on "Arterial Disease and Angina Pectoris," by Sir T. Clifford Allbutt, M.D., F.R.S., is announced for publication in the autumn by Messrs. Macmillan & Co., St. Martin's Street, London, W.C.

## PERISCOPE.

### THIRD INTERNATIONAL CONGRESS OF OCCUPATIONAL DISEASES.

IN 1906 the first "Congresso internazionale per le malattie del lavoro," convened by a number of energetic Italian scientists, met at Milan. In 1910 the second Congress followed at Brussels, and was largely attended. The Permanent International Committee for the Study of Diseases of Occupation ("La Commission permanente internationale pour l'étude des maladies professionnelles") resolved that the next Congress should be held in Vienna in September, 1914, on strictly scientific lines. The Presidents will be Dr. Franz von Haberler, Chief of the Austrian Sanitary Department, and referee in sanitary matters to the Ministry of the Interior, and Dr. A. Schattenfroh, Professor of Hygiene and Director of the Institute of Hygiene in the University of Vienna. The General Secretary is Dr. Ludwig Teleky, Lecturer on Social Medicine in the University of Vienna, and the Secretary is Dr. Hermann von Schrötter, of Vienna. The programme ("l'ordre du jour") is as follows:—1. Fatigue—its physiology and pathology, especially in relation to occupation and the effect of professional labour on the nervous system. Night work. 2. Work in hot and damp air. 3. Anthrax ("charbon"). 4. Pneumonoconioses. 5. Injurious effects of electricity in industrial pursuits. 6. Industrial poisons, especially anilin, mercury, lead. 7. Injurious effects of industrial work on hearing. 8. Miscellaneous communications. Detailed information will be given on application to the General Secretary, Dr. Ludwig Teleky, Vienna IX., Türkenstrasse, 23.

### LITERARY INTELLIGENCE.

AN important new work is about to be published, entitled "Researches on Rheumatism," by Dr. F. J. Poynton and Dr. Alexander Paine. From the preface we cull the following extract:—"We have collected in this volume the chief papers bearing upon a research on the subject of rheumatism which has extended over a period of fifteen years. In so doing we are well aware that few have the time to spend over reading the details of such investigations, but should the essentials of this research be eventually established, we feel that this book will stand as a landmark in the history of rheumatism in this country. Some of these papers were written before we demon-

strated what we believe to be the exciting cause of the disease ; others elucidate the nature and action of that cause ; others, again, extending the main thesis, deal with allied conditions. At the conclusion of the volume the bearing of these investigations upon clinical medicine and public health is considered in a special article." The work, which is to contain 106 black and white plates and a frontispiece in colour, will be published by Messrs. J. & A. Churchill, of 7 Great Marlborough Street, London, W. The same firm has nearly ready the eleventh edition of Swayne's "Obstetric Aphorisms," which is now edited by Dr. W. C. Swayne, Professor of Obstetrics in the University of Bristol ; also the seventh edition of "The Microtomist's Vade-Mecum," by Mr. A. B. Lee ; the sixth edition of the late Professor Campbell Brown's "Practical Chemistry," edited by Dr. Bengough ; and the third edition of "A Text-Book of Physics," edited by A. Wilmer Duff.

#### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College held on Wednesday, July 16th, 1913, the following gentlemen, having passed the requisite examinations, on 27th March, 1913, were admitted Fellows :— Arthur Isaac Brown, M.D., C.M., Trinity Medical College, Toronto, Regina, Sask., Canada ; William Barrie Brownlie, M.B., Ch.B. Univ. Glasg., Springvale, Strathaven ; Charles Corben, M.R.C.S., L.R.C.P. Lond., M.D. Univ. Durh., Hove, Sussex ; Robert Crothers, L.R.C.P. & S.E., &c., Ashlea, Droitwich ; Rustom Kershasp Dadaachanji, L.M. & S., Bombay, M.R.C.S., L.R.C.P. Lond., Cumballa Hill, Bombay ; John Kolbe Milne Dickie, M.D. Univ. Edin., Edinburgh ; Matthew Robertson Drennan, M.B., Ch.B. Univ. Edin., Edinburgh ; Edwin Charles East, M.R.C.S., L.R.C.P. Lond., Birmingham ; Max Greenberg, M.B., Ch.B. Univ. Edin., Edinburgh ; Francis Joseph Henry, M.B., Ch.B. Univ. Glasg., D.P.H. Camb., Middlesborough ; Frederick Norton Haylock Maidment, M.R.C.S., L.R.C.P. Lond., M.B., Ch.B. Univ. Lond., Twyford, Winchester ; Robert Massie, L.R.C.P. & S.E., &c., Edinburgh ; Arthur Stanley Roe, M.R.C.S., L.R.C.P. Lond., M.B., Ch.B. Univ. Oxford, Brisbane, Queensland ; Robert Stout, M.R.C.S., L.R.C.P. Lond., M.D. Univ. Lond., London ; Alfred George Talbot, M.B., C.M., M.R.C.S., L.R.C.P. Lond., Christchurch, New Zealand ; John Watson, L.R.C.P. & S.E., &c., Glasgow.

# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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SEPTEMBER 1, 1913.

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### PART I.

#### ORIGINAL COMMUNICATIONS.

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ART. VII.—*Medical Inspection of School Children.*<sup>a</sup> By  
SIR WILLIAM J. THOMPSON, M.D. Univ. Dubl., F.R.C.P.I.,  
Registrar-General for Ireland, President of the Branch.

THE subject on which I propose to speak for a short time is "The Medical Inspection of School Children." This subject has been already very exhaustively and most effectively dealt with by Mr. Story, President of the Irish Medical Association, in a paper read by him before the Royal Academy of Medicine in Ireland, in February, 1911, and also in a paper read before the Statistical and Social Enquiry Society of Ireland, in December of the same year; by Mr. Gogarty in an address introductory of the Winter Session of 1911 at the Meath Hospital; and by Mr. Jones, Professor of Economics in Queen's University, Belfast, who gave a public lecture on the same subject in the Theatre of the Royal Dublin Society in May, 1910. My only apology for bringing the subject forward again is that it is an urgent national one, and that although it has

<sup>a</sup>The Inaugural Address delivered at the Annual Meeting of the Leinster Branch of the British Medical Association, held in the Royal College of Physicians of Ireland on July 15, 1913.

been before the public on these three or four occasions, still it would appear as if the whole community were not yet aroused to the importance of the subject, and until they are it is useless to hope for legislation in this matter, and it is a matter that must be dealt with by legislation. Legislation can always be obtained on any particular matter, or for any particular object, if that matter or object is universally, persistently and perseveringly taken up by the public. The medical profession have on numerous occasions been the pioneers of, and have given valuable and effective help in bringing about, social reforms and useful legislation, and if the profession, than whom no other section of the community know so much, take up this subject, there is little doubt but that their opinion will have great weight with the general public.

During the last twenty years, a period of history which is usually considered by us a progressive age, much has been and is being done, both by legislation and by voluntary work, to improve the health of the people as a whole, principally that of the poorer classes. It is needless to enumerate the different Acts of Parliament passed during recent years, all having directly or indirectly this object in view, not to mention the different voluntary organisations and institutions which are doing admirable work on much the same lines.

It is only comparatively recently that public attention in this country has been directed to the health of children, especially to that of school children, although in different countries on the Continent the matter was taken up in a practical manner many years ago. In the beginning of this century the subject aroused much attention, and was considered such an important one that in 1907 an Act was passed in England, and came into force on the 1st of January, 1908, for the medical inspection of school children. It is difficult to say, and it is one of those things we cannot understand, why the Act was not applied to Ireland; and no one will question the fact that the children in this country require medical inspection just

as much as the children in England—in fact the necessity for such is more urgent with us.

It is a regrettable fact that the general death rate in Ireland is higher than that in England or Scotland; for instance, the Irish death rate for the five years 1907–1911 was 17.2 per 1,000 of the population; in England and Wales it was 14.5; and in Scotland, 15.9.

Examining more closely the deaths of the children of school age—viz., 5 to 15 years—we also find that Ireland compares unfavourably with England and Scotland.

TABLE showing for Ireland, during the decade 1901–10, as compared with England and Wales, and Scotland, the average death-rate per 1,000 of the respective populations at age-periods, 5 and under 10 years, and 10 and under 15.

COUNTRIES	Age Periods	1901–1910	
		Annual Rate per 1,000 of Population, by Sexes, at ages specified	
		Males	Females
Ireland - -	{ 5–10	3.7	4.2
	{ 10–15	2.6	3.6
England and Wales -	{ 5–10	3.4	3.5
	{ 10–15	2.0	2.1
Scotland - -	{ 5–10	3.9	4.3
	{ 10–15	2.6	3.0

From an examination of the causes of the deaths of children between 5 and 15 years of age during the year 1910, the latest year in which the figures for the other countries in comparison with Ireland are available, it would appear that in Ireland 36.1 per cent. of all the deaths of children between 5 and 15 years of age were due to tuberculous disease, that in Scotland the corresponding

proportion was 28.9 per cent., and that in England and Wales it was 23.7 per cent.

In the last Census year—viz., 1911—101,758 births were registered in Ireland; the average number of births for the previous five years was 102,408. Taking the children born, and who had attained to the age between 5 and 10 years, and those between 10 and 15 years, previous to the date of the Census, it will be found that about 85 per cent. of the former, and 80 per cent. of the latter were survivors at the date of the last Census. Of these, about 72 per cent. attend school, 69 per cent. attending primary schools (principally under the authority of the National Board of Education), and 3 per cent. other schools. This means that there were in Ireland on the 2nd of April, 1911, over 595,000 children who were attending school between the ages of 5 and 15, and who, therefore, if the same law was in force in Ireland as in England, would be under medical inspection. Of this number about 200,000 attend school in civic districts—*i.e.*, towns with a population of 2,000 or upwards, and the remaining children, 395,000, in rural districts—a proportion of almost one to two. The actual number of all ages, however, attending school, as returned by the National Board of Education, was 634,000.

The system of medical inspection adopted in England, as laid down by the Regulations of the Board of Education, framed from the Act of Parliament dealing with the subject, is that children should get a full and complete medical examination on their entrance to school (such children are termed “entrants”); again about the third year of school life (this is not compulsory); and lastly, on their leaving school, or about the sixth year of school life (these children are designated as “leavers”). It is computed in England that about one-third of all children attending school are examined each year—and this for Ireland would mean that about 200,000 school children would be medically examined each year if we had such an Act.



In a properly organised and constituted school the course of study should be regulated by the physical and mental condition of the pupils ; those, therefore, who are not of full mental and physical capacity should not be asked to do all the lessons that are supposed to be sufficient for ordinary normal healthy children ; then again those who are found to be below the normal state of health should get the necessary treatment to raise them to that state of health. Of course, amongst the latter will be found a certain proportion of mentally defective children, and there is no doubt about it that some of these children should not be allowed to attend an ordinary school. This subject of mentally defective children is now being dealt with by a Bill introduced by the Government, which is in course of passing through Parliament.\*

The schedule of medical examination recommended by the English Education Board, and on the whole almost universally adopted by the Local Authorities, is so framed that it contains when completely filled up a vast amount of information in a comparatively small compass. It may be subdivided under four headings :—

- (1) Name, age, address, &c.
- (2) Personal history.—History of the previous illness—principally dealing with the infectious diseases.
- (3) The personal medical history, including :—
  - (a) General condition, height, weight, nutrition, cleanliness.
  - (b) Special conditions—as to the state of the teeth, nose, eye, ear, mental condition, &c.
  - (c) Disease or deformity—heart, lungs, nervous system, tuberculosis, other diseases, deformities, &c.
- (4) Observations and recommendations.

This schedule has been by some authorities considerably added to, but it will be seen that it is pretty comprehensive.

\* This measure became an Act before Parliament was prorogued.

Parents are always notified of the day and hour at which the children are to be examined, and when present are told what should be done if any disease is discovered. Quite a number of parents do attend, and this brings them into closer relationship with the school attendance officer, the nurse, the school medical officer, and the teacher—a state of affairs which is very desirable.

This inspection and examination, therefore, when properly carried out, not only deal with diseased and abnormal conditions, but must necessarily detect some affections in such an early stage that under proper care the disease is prevented from fully developing.

The number of diseases—omitting for the present the zymotic diseases—that children are subject to during school age is a long list, and from the report of the Chief Medical Officer of the English Education Board, we find not only a great proportion of the children suffering from ordinary disease, but a large proportion suffering from diseases which, up to the introduction of medical inspection of school children, were thought comparatively rare amongst the juvenile population. For so far the medical inspection of school children has been almost confined to those attending schools under the local School Board of Management—that is all those schools under the control of the Education Board. This is a class of pupils whose parents or guardians, as a rule, do not seek medical advice until it is urgently needed, and pay comparatively little attention to slight ailments, or what appear to them to be trivial matters, with the result that when the doctor is called in he may, and very often does, find the child in a very critical and hopeless condition. On the other hand had he been called in earlier, serious and often fatal results would have been avoided. On this account medical inspection is more urgent and more necessary amongst the poorer class of children, than amongst those of the better class who attend the secondary or high class schools.

From the Chief Medical Officer's lucid and masterly

report for 1910, it appears that in London for that year over 172,000 children were examined, and of these over 81,000, or only 47 per cent., were returned as normal—that is free from any definite organic defect or disease: and this we may consider about a fair average.

Sir George Newman enumerates the organic defects or diseases as follow, and in the order mentioned :—

- (1) Malnutrition or “defective nutrition stands in the forefront as the most important of all physical defects from which school children suffer.” In reference to this Dr. Butcher estimates that in Bedfordshire the percentage amongst children ranges from 18.5 in girls in rural districts to 23.7 in boys in urban districts; and Dr. Badger, Wolverhampton, reports that the percentage of pupils aged 5 to 13 years examined by him was as follows :—

Good	..	..	31.7
Normal	..	..	50.2
Mal-nourished	..	..	18.1

He states: “The last mentioned figure reports a seriously large proportion of scholars whose nutrition was considered defective, and I confess it was a surprise to myself to find that so large a number had been included in that category.”

Amongst the causes which induce this may be mentioned :—

Poverty.

Inherent lack of vitality.

Intestinal parasites.

Unhealthy home conditions.

Insufficient sleep.

Rickets.

‘ Carious teeth and oral sepsis.

Improper and insufficient diet.

- (2) Uncleanliness.—It is gratifying to know that this

condition is much less since the introduction of school inspection.

- (3) Defective vision.—This amounted to 18,000 out of the 172,000 examined in London, or over 10 per cent.
- (4) Defective hearing to half that number.
- (5) Adenoids, enlarged tonsils and glands.
- (6) Ringworm.

Then come flat foot, organic disease of the heart, anæmia, rheumatism, &c.

One of the causes put down for malnutrition, as just mentioned, is dental caries, and considering that a diseased condition of the teeth with its accompanying oral sepsis has a most pernicious and injurious influence on the health of the child, this cannot be wondered at. The trouble is one which, under proper supervision in its early manifestation, may be readily recognised and successfully treated: hence the importance that steps should be taken to ensure that a beginning is made on a scheme directed both towards the prevention and cure of the disease. It is difficult to work out average percentages for defective teeth amongst school children as the standard of each dentist or medical officer may vary. In the same annual report (1911), one county (Shropshire) is mentioned, in which the school medical officer has, since the inception of medical inspection, taken particular interest in the subject of dental disease, and figures are quoted from his report which are considered reliable. From these figures one gathers that the average percentage of children found to have sound teeth and a normal mouth amounts to not more than about 6 per cent., and the percentage of pupils with one to three diseased teeth is about 30—thus leaving the high percentage of 64 with what might be defined as defective, or we might almost say, seriously defective teeth. This must be looked upon as alarming.

Dr. Starkie, Resident Commissioner of National Educa-

tion, in a paper read at the Sanitary Congress held two years ago in Dublin, describes the condition of the teeth of 200 children attending the Lough Cutra National School, Co. Galway. These children, through the generosity of Viscount Gough, and with the consent of the Commissioners of National Education, were examined by a dentist who reported that "the children appeared to be unacquainted with the ideal of oral cleanliness, and the possession of a tooth-brush did not seem to be recorded."

Dr. Starkie gave the percentage of these children at all ages having sound teeth as 4.5, which is lower than in any of the English counties.

Medical inspection is made more effective by the proceeding known as "following up" the ailing or defective child until it receives the treatment of which it stands in need. The various methods adopted to make fruitful the work of inspection are :—

- (1) *The part taken by the Parent.*—It is most essential that the parent should closely co-operate in this matter.
- (2) *The Teacher.*—The importance of the part played by the teacher in assisting in the work of medical inspection and in securing attention to ailments discovered, or in regard to school hygiene generally, is not easy to exaggerate.
- (3) *The School Nurse.*—The efficient "following up" would be impossible unless the arrangements for the school medical services included a school nurse, or health visitor appointed for "whole" or "part time." One can readily understand how much of the success of the co-operation of the parents depends on the tact and sympathy of the nurse.
- (4) *The School Attendance Officer.*—The work of this officer varies widely in different areas, but his duties cannot be too lightly undertaken, as he plays an important part, not only in

reporting on the absence of pupils from the school, but also assists materially in the process of "following up."

- (5) *Voluntary Agencies and Care Committees.*—The work done by these organisations is found in a great number of districts to materially help and assist the officials in connection with medical inspection.

Not only has the School Medical Officer to examine the pupils and recommend treatment; but other important and far-reaching duties are imposed on him. For instance, his additional duties are described in the same annual report.

- (1) Advising or approving the closure of schools.
- (2) Authorising the exclusion of individual children from school.
- (3) Reporting on open air schools and similar institutions.

It is also recommended that the sanitation of schools, the provision of meals, of special schools for defective children, and of physical training should be referred by the local educational areas, more or less directly to the School Medical Officer.

In Ireland it is a notorious fact that the sanitation and hygienic condition of many national schools is most pernicious, and the Commissioners of National Education have themselves in different annual reports called attention to the defective and undesirable state of many of their schools. If this is so, what alarming reports might we not expect from School Medical Officers, had we such?

As I have said before, the intermediate medical examination is not compulsory, but it may be taken for granted that in the ordinary course every child is thus examined. In addition it is understood that at any time, if any child seems to be ailing or defective from any cause, that child may, on the representation of the teacher, be medically examined during any visit of the doctor, such cases being designated by the name of "specials." This

provision is of course absolutely necessary, as a child may at any time suddenly develop some serious trouble which requires immediate attention. In addition, if a child developed any of the fevers, it becomes necessary to isolate that pupil, and thus prevent the spread of infection.

The last medical examination is about the sixth year of school life, or when the pupil is about to leave school—such pupils being known as “leavers.” “This examination is of vital importance, and in view of the fact of the early employment of the child and of the requirements of the Certifying Factory Surgeon and the Post Office medical examinations, particular attention should be paid to the following points :—

- (1) *Cleanliness*, including head and body.
- (2) *General health and physique* (including height and weight).
- (3) *Soundness of the special senses*—in particular, vision and hearing.
- (4) *Mental capacity*.
- (5) *Constitutional and organic conditions*—heart and circulation, lungs, hernia, varicose veins, dyspepsia, anæmia, spinal disease.
- (6) *Infectious or contagious disease*, including skin disease.
- (7) *Teeth*.—Oral sepsis.
- (8) *Impairment in use of limbs*.

This examination is pretty exhaustive, and any child creditably passing through the ordeal may claim to be able to undertake any ordinary avocation.”

The parents, as I have said before, are asked to be present on the day of examination, and can consult with the doctor and teacher as to the best and most suitable work. Employers are sure to make use of this examination, for it is most desirable from their point of view that they should not get an inferior class of juvenile workers. In Germany, where in some parts medical inspection has been going on for a great number of years, use is made

of this examination to the advantage both of the State, of the parent, and of the child.

In the matter of schools and school children in Ireland, it is only fair to mention the work that Her Excellency the Countess of Aberdeen has done in connection with this subject, through the different branches of the Women's National Health Association. It was through her exertions that a Treasury Grant was given for the cleansing and disinfecting of schools, although half the amount spent has to be raised locally. This—every one will agree—was, from a health point of view, a welcome and useful innovation. Many branches also have placed at the disposal of the teacher and manager of different schools the services of their nurse with most satisfactory results.

Quite a number of the branches also have organised free, or almost free, school meals for children, and in the rural districts, where children have a long distance to go to school, the benefit of this cannot be over-estimated.

The Association has also in some of the branches instituted dental treatment, and has also started "tooth-brush clubs" amongst school children, which are very popular. In all health lectures delivered to children in centres where the Health Exhibition visited, special attention has been directed to the care of the teeth.

It may be of interest to know that last year—that is, the year ended 31st of March, 1913, the Treasury placed at the disposal of the National Education Commissioners a sum of £7,000; this was to be used for the equipment and the work of dental clinics, but the proviso was added that, to secure a certain sum, an equal sum had to be raised locally. Advantage was taken of this only to the extent of a few hundred pounds, and that practically all by the Women's National Health Association.

I have not gone into the question of finance in this matter—an important one; I have formulated no scheme whereby medical inspection can be carried out; I have made no recommendations, as those could be readily dealt with were the subject seriously taken up by the Govern-



ment and legislation contemplated. At present all I plead for is that we, the medical profession, should in season and out of season bring before all sections of the public the evils arising from non-medical inspection of schools. All sections of the community should be interested in this—the manufacturer, the business man, the farmer, all those engaged directly or indirectly in education, all local bodies and all philanthropic organisations. And if we can succeed in arousing the attention of all those institutions and organisations to the benefit that would accrue to them from having stronger and healthier young people to deal with, I venture to predict that in a short time we shall have medical inspection of schools in Ireland. This I hold would be the most important link in the chain which of late years has tended to the prosperity and health of our country.

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ART. VIII.—*Pathological Report of the Rotunda Hospital for One Year, November 1st, 1911, to October 31st, 1912.*<sup>a</sup> By ROBERT J. ROWLETTE, M.D. (Dublin Univ.); F.R.C.P.I.; Pathologist.

THE work of the Laboratory has continued to increase in the year under review. In the twelve months ending October 31st, 1912, 335 specimens were examined, exclusive of 418 specimens of urine sent to the Laboratory for special report. The total number of reports furnished was 753, as against 393 in the previous year. The increasing use of vaccines in the practice of the hospital has further increased the work of the Laboratory. In the year under review, 47 puerperal patients were so treated, as against 30 in the previous year. A number of patients on the Gynæcological side were also treated.

Autopsies were performed in the case of sixteen adult patients, eleven of whom died in the Maternity, and five in the Gynæcological Wing. Brief notes are appended.

<sup>a</sup> Read in the Section of Pathology of the Royal Academy of Medicine in Ireland on Friday, May 2, 1913. [For the discussion on this Report see page 213.]

174 *Pathological Report of the Rotunda Hospital.*

CASE I. (Maternity).—M. L., aged thirty-seven, died November 13, 1911, one month after induction of labour for hyperemesis.

Large abscesses in both *breasts*.

*Thoracic organs* normal.

Extensive thrombosis of *right* ovarian vein.

Abscesses in both *kidneys*.

*Other organs* normal.

Cultures of *Staphylococcus aureus* from all abscesses.

CASE II. (Maternity).—E. L., aged forty, died November 27, 1911, twenty-five days after delivery.

*Lungs* congested at bases; otherwise normal.

*Heart* normal.

*Abdomen* full of blood and pus.

*Spleen* quite disorganised; several septic infarcts and abscesses; the organ badly ruptured.

*Kidneys* also showed pyæmic infarcts.

*Liver* normal.

*Ovarian veins* thrombosed, chiefly the right.

*Uterus* normal.

Cultures of *St. aureus* from pus in peritoneum, from spleen, kidney, and thrombus in ovarian veins.

CASE III. (Maternity).—M. H., aged thirty-nine, died December 16, 1911, the day after delivery outside Hospital.

*Thoracic organs* normal.

*Abdomen* contained pure blood.

*Uterus* showed large tear in lower segment, involving the cervix, the bladder, and the vagina.

CASE IV. (Gynæcological).—M. M., aged forty, died December 29, 1911.

*Thoracic organs* normal.

*Peritonitis* in lower part of abdominal cavity.

Large myoma of *uterus*.

*Bladder*.—Wall sloughing.

*Other organs* normal.

CASE V. (Gynæcological).—M. C., aged sixty-four, died January 28, 1911.

*Lungs* and *heart* normal.

Massive cancer at *pylorus* involving *liver*, which has

massive secondary deposits. *Transverse colon* also infiltrated.

*Other organs* normal.

CASE VI. (Maternity).—M. E., aged thirty-five, died March 12, 1912, six days after hysterectomy for myoma in pregnant uterus (child dead).

*Thoracic organs* normal.

*Abdomen* showed extensive peritonitis and effusion of blood.

*Kidneys* and *other organs* normal.

CASE VII. (Gynæcological).—M. G., aged thirty-three, seven months pregnant, died March 27, 1912, three days after removal of appendix.

*Lungs* and *heart* normal.

*Abdomen*.—Operation wound healthy and healing soundly. *Appendicular site* also healthy. No general peritonitis. Localised inflammation in region of *right tube* and *ovary*. Strong band connecting lower end of *ileum* with *right broad ligament*, and similar band connecting *sigmoid* with *left broad ligament*.

*Liver* pale.

*Stomach* dilated.

*Right kidney* disorganised; upper pole contained abscess, and several infarcts throughout organ.

Infarcts in *left kidney*.

*Other organs* normal.

Cultures of *St. aureus* from right kidney.

CASE VIII. (Maternity).—M. C., aged thirty, died March 28, 1912, six days after delivery.

*Right leg* greatly swollen, gangrenous to the groin, and oozing bloody fluid. No thrombus found.

*Thoracic organs* normal.

*Uterus* inflamed internally, with purulent fluid.

Phlebitis in *right broad ligament*.

No peritonitis.

*Other organs* normal.

CASE IX. (Maternity).—K. K., aged thirty-one, died April 14, 1912, four weeks after delivery.

*Right lung* congested; large abscess with firm fibrous wall in base.

*Left lung* congested at base; old scars at apex.

*Heart* flabby; no organic lesion.

*Abdominal organs* normal, except for purulent pyelitis of both kidneys. No peritonitis.

*Uterus* contracted; sloughing 2 inches by 2 inches internally.

Cultures from abscess of lung of *St. aureus* and streptococcus; from kidney of *B. coli*.

CASE X. (Maternity).—A. R., aged thirty-five, died July 10, two days after delivery; eclampsia.

Typical lesions of eclampsia in *liver* and *kidneys*.

*Other organs* normal.

CASE XI. (Maternity).—D. P., aged thirty-two, died of eclampsia in seventh month of pregnancy.

Typical lesions of eclampsia in *liver* and *kidneys*.

*Other organs* normal.

CASE XII. (Maternity).—A. H., aged twenty, died August 7, 1912, eight days after delivery, day after laparotomy for septic peritonitis.

Large condylomata on *labia* and *thighs*.

*Thoracic organs* normal.

*Abdomen* full of pus.

*All organs* normal.

Culture of *streptococcus* from pus.

CASE XV. (Maternity).—K. J., aged twenty-one, died August 7, 1912, twenty-three hours after delivery, having suffered from hyperemesis.

No abnormality discovered *post mortem*.

CASE XIV. (Gynæcological).—A. J., aged fifty-six, died four days after hysterectomy and resection of intestine for sarcoma of the uterus.

*All organs* normal.

CASE XV. (Maternity).—K. J., aged twenty-one, died September 13, 1912, six days after delivery, three hours after laparotomy for septic peritonitis, during secondary syphilis.

*Thoracic organs* normal.

*Abdomen* full of pus; peritoneum much inflamed.

*Uterus* inflamed.

*Other organs* normal.

Culture of *St. aureus* from pus.

CASE XVI. (Gynæcological).—M. D., aged thirty-two, died October 21, 1912, immediately after hysterectomy for ruptured uterus.

Autopsy showed tear in fundus of *bladder*.

*Other organs* normal.

Curettings and other fragments were examined on fifty-two occasions for purposes of diagnosis (Table I.).

Tumours and other operation specimens were examined on 111 occasions (Table III.).

The *epithelioma of the vulva* was the second such tumour from the same patient, a malignant ulcer of the other labium having been removed two years and nine months previously. The glands of the groin were extensively involved.

The number of cases of malignant disease of the uterus dealt with is unusually small—6. In the previous year there were 14; in 1910, 11; in 1909, 9. This decrease is, however, only apparent, being due to the fact that a larger proportion than usual of the cases of cancer encountered in the practice of the Hospital were in too advanced a state to permit of operation. It is curious, however, that no less than three cases of sarcoma of the uterus were met. This is as many as we had met in the previous seven years. In the three cases the tumour was primary, no fibroid being present. In one the growth was from the cervix.

The examination of myomata as regards degeneration was again carried out. Of the 27 specimens, 14 showed no sign of degeneration, 3 were necrotic, 4 showed mucoid changes, 3 were calcareous, 2 were fatty, and 1 was inflamed.

Of the 29 cases of salpingitis, 10 were tuberculous. The proportion in eight years has been 39 out of 103.

Including 5 dermoids and 2 lutein cysts, 26 cystic conditions of the ovary were examined. Of the 19 cystic tumours, 14 were ordinary multilocular, smooth-walled cysts, and 5 showed papillary growths. Of the latter, 2 showed definite evidence of malignancy, and a third, though not showing any evidence of malignancy to the

microscope in the parts examined, was bilateral and sprouting through its covering. In one of the malignant cases a papillary cyst had been removed sixteen months before. On the occasion of the present operation the patient was pregnant at full term. The operation for removal of the cyst was combined with a Cæsarean section. Our experience during the year confirms the opinion expressed in previous reports as to the dangerous character of cysts of the ovary in which there is any tendency to epithelial over-growth.

One of the dermoids presented malignant characters of carcinomatous type.

Among the cases of ectopic pregnancy was one of twins.

In last year's Report I mentioned a case of chorion-epithelioma—the first recorded in Dublin for many years. Curiously enough, another case was met this year. A tumour, the size of an ostrich egg, was found lying in the pelvis, adherent to the uterus, intestines, and retro-peritoneal tissue. Its nature was not recognised, and from its friable, blood-clot like nature, it was regarded at the moment of operation as a hæmatocele. Hæmorrhage was very severe, and the patient died within a few minutes after removal of the tumour. Dr. W. G. Harvey, who, in my absence, kindly examined the masses removed, recognised their nature. Unfortunately, in the meantime, the body had been removed without an autopsy being performed. It is interesting to note that there was nothing in the history of the patient to suggest pregnancy, regular menstruation having taken place six weeks before admission to the Hospital. (See "Clinical Report.")

133 specimens of uterine lochia were examined in morbid cases. The same difficulty has been found as heretofore in making an early diagnosis, particularly in cases where only diplococci are found in the smear preparations. I am in hopes that the routine use of blood-agar as a culture medium may assist in distinguishing streptococci more readily than hitherto. The gonococcus, as usual, proved a rare organism in producing puerperal infection.

## APPENDIX.

TABLE I.—*Examinations of Curettings and other Fragments for Purposes of Diagnosis.*

Endometritis . . . . .	20	Chorionic villi, decidua, &c. . . . .	9
Endocervicitis . . . . .	4	Corpus luteum . . . . .	1
Adeno-carcinoma of corpus uteri . . . . .	1	Carcinoma of peritoneum . . . . .	1
Sarcoma of uterus . . . . .	2	Normal tissue, clot, <i>débris</i> , &c. . . . .	12
Myoma of uterus . . . . .	2		

TABLE II.—*Varieties of Endometritis.*

Glandular (including cystic) . . . . .	12	Interstitial . . . . .	3
		Septic . . . . .	5

TABLE III.—*Operation Specimens.*

Fibroma of vulva . . . . .	1	Salpingitis or pyosalpinx (non-tuberculous) . . . . .	19
Epithelioma of vulva . . . . .	1	Tuberculous salpingitis . . . . .	10
Epithelioma of cervix . . . . .	1	Cyst of ovary . . . . .	21
Erosion of cervix . . . . .	3	Dermoid of ovary . . . . .	5
Adeno-carcinoma of uterus . . . . .	2	Oöphoritis . . . . .	1
Sarcoma of uterus . . . . .	3	Parovarian cyst . . . . .	1
Myoma of uterus . . . . .	27	Ectopic pregnancy . . . . .	6
Mucous polypus of uterus . . . . .	5	Chorion-epithelioma . . . . .	1
Fibrosis of uterus . . . . .	1	Appendix . . . . .	2
Septic uterus . . . . .	1		
Prolapsed uterus . . . . .	1		

TABLE IV.—*Organisms Observed in and Isolated from the Lochia in Morbid Cases.*

Streptococci . . . . .	36	B. coli . . . . .	12
Staphylococci . . . . .	21	Saprophytes . . . . .	33
Diplococci . . . . .	37	Negative . . . . .	35
Gonococci . . . . .	2		

ART. IX.—*Some Sequelæ of Labour.*<sup>a</sup> By BETHEL A. H. SOLOMONS, M.D. (Univ. Dubl.); M.R.C.P.I.; ex-Assistant Master, Rotunda Hospital.

I FEEL that my first duty is to apologise for bringing under your notice a subject that perhaps may be considered ancient history, but my excuse is that, as far as I can trace, there have been no post-labour statistics collected during recent years. It is a well-known fact that there would be very little gynæcology except for midwifery. The number of patients who attended the Rotunda Hospital Dispensaries because of complaints consequent on their confinements determined me to endeavour to gather together some statistics regarding those patients who were delivered in the hospital. In reviewing these figures one must bear in mind that most of these are women who had been delivered in a well-appointed hospital, under the best conditions, whereas a great number of those who are delivered outside the hospital run a much greater risk with less skilled attendants and less satisfactory surroundings.

Having obtained the sanction of the Master, cards were printed and were given to all primiparæ as they left the hospital on the eighth day of the puerperium. The instructions on these cards were to come for examination on that day week. If all those to whom cards were presented had appeared these statistics would have been greater; but personally I am satisfied, for warning had been given to me that none would trouble to come. I shall now submit to you the results of examining 543 primiparæ sixteen days after labour. In 543 cases there were :—

Normal	-	-	-	-	-	219
Cervix lacerated only	-	-	-	-	-	219
Sub-involution	-	-	-	-	-	27
Cervix lacerated, accompanied by retroversion						25
Retroversion only	-	-	-	-	-	14

<sup>a</sup> Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland on Friday, May 23, 1913.



Cervix lacerated : non-union of perineum	-	12
Cervix lacerated : non-union of perineum, retroversion	- - - - -	8
Non-union of perineum only	- - -	7
Parametritis	- - - - -	4
Non-union of perineum, retroversion	- -	3
Cystitis	- - - - -	2
Prolapse	- - - - -	2
Pyosalpinx	- - - - -	1
Total	- - - - -	543

That is—

Normal	- - -	219 or 40.33 per cent.
Lacerated cervix	- -	264 or 48.62 „
Retroversion	- -	50 or 9.21 „
Non-union of perineum	-	30 or 5.52 „
Sub-involution	- -	27 or 4.97 „
Parametritis	- - -	4 or .07 „
Cystitis	- - -	2 or .035 „
Prolapse	- - -	2 or .035 „
Pyosalpinx	- - -	1 or 0.18 „

*Normal Cases.*—It seems extraordinary to find that only slightly more than 40 per cent. of the cases examined were perfectly normal. But when it is seen later that in the Table tears of the cervix from a third of an inch upwards are included this apparent phenomenon is explained.

*Laceration of the Cervix.*—Some gynæcologists examine a patient, find a lacerated cervix, and tell her that instruments were applied in the confinement. It will be seen by the vast number of these cases—viz., 48.62 per cent.—that a tear of the cervix does not depend on the application of forceps. In these 264 cases the injury varied from a third of an inch on one or other side to large bilateral tears, the size being absolutely independent of instruments. Colyer (1) and others have stated that the

extent of the tear depended on the time before labour that the membranes ruptured—*i.e.*, that the earlier the membranes ruptured the greater was the tear. In this investigation I have no definite statistical evidence about the point, but on questioning some of those who had extensive tears I was informed that the “waters” had come away long before the birth of the infant.

On finding such a large number of these lacerations one must needs inquire whether their occurrence can be avoided: also what steps should be taken when they are discovered. It seems impossible to avoid the former in natural deliveries. The latter opens up a large field for discussion. It is well known that the less intravaginal interference after the placenta has been delivered the better is the prognosis. If one could be sure that a cervical laceration was present one might advise vaginal examination, with suture afterwards. As this diagnosis without examination is impossible, the question arises as to whether examination should be indulged in or not. Also, if a laceration is found, whether one should immediately suture or operate secondarily. Dickinson (2) finds that tears of the cervix are so common that he always examines and sutures at the same time as the perineum, or else three to ten days later. He does not mention if he does denudation in the latter instance. In the discussion on this paper two other speakers concurred, but Cragin (3) “hit the nail on the head” when he said that although he approved of stitching tears, yet he feared preaching this dictum to students owing to the skill and absolute aseptic technique required. Baldy (4) does not suture tears if discovered, for he considers they heal spontaneously; neither does he believe that cancer starts in a tear, as stated in many monographs, and noted by Ashton (5) in his “Practice of Gynæcology.” Such a great authority as Whitridge Williams (6) advises against suturing unless there is hæmorrhage. Davis (7), from a study of 53 cases, concludes that lacerations of half-an-inch should be primarily

closed, but points out the necessity for capability and aseptic technique. He found good union in 45, and considers a tear smaller than half-an-inch heals spontaneously. In this long paper he describes his technique, in which there is nothing out of the common. Coles (8) quotes other authorities to show that tears occur in 5 per cent. to 15 per cent. of multiparæ, and 25 per cent. to 50 per cent. of primiparæ. He says that this is too low a computation, and that 25 per cent. and 75 per cent. respectively have tears. From his investigations he concludes that involution should not be awaited, but immediate suture should be practised. Later he contradicts himself when he suggests that if œdema is present another operation is afterwards necessary. He finds that the better class of patient expects to be lacerated and demands to be sutured. Comment on such an observation is needless! Heywood Smith (9) and Macnaughton Jones (10) favour immediate suture, the former drawing attention to the danger in unstitched cases of endocervicitis, fatal sepsis in large lacerations, abortion, sterility, and cancer. Wm. E. Ground (11) finds immediate suture useless, and advises a secondary operation two months later.

With such varied opinions of distinguished obstetricians one must of necessity map out one's own course of treatment. (a) Should a vaginal examination be made immediately the placenta is delivered? The answer in normal cases appears to be in the negative: in fact, such teaching to inexperienced students would be nothing short of criminal. In traumatic hæmorrhage arising from the cervix the laceration should be sutured. In those cases where an intrauterine douche is given the cervix should be examined, and if necessary sutured. (b) Should all women be examined two months after confinement? Certainly. (c) Should they be informed that the cervix is torn and requires repair? If they are similar to those patients of Coles (12) they will be pleased. But if in this age of strenuous competition such news is heard

by the ordinary woman, who is feeling recovered after her confinement, there will be a great tendency for her to employ a different practitioner in the future. The best way out of a difficult position is to make a routine examination of patients, to tell them the dangers of cervical laceration : if such be found, to advise operation as a safeguard rather than as a necessity. One might argue against operations that there is a danger of a repetition of the tear in the following confinement. An alternative suggestion is that there should be a routine examination of all women at the end of their child-bearing period, when all lacerated cervixes could be repaired.

*Backward Displacement of the Uterus.*—This is of such common occurrence in the gynæcologist's practice that I was much surprised to find that only in 50 of the cases—*i.e.*, 9.21 per cent.—was it present. Polak (13) found a nearly similar average—*viz.*, 43 in 500—when he examined ten days after confinement. An examination of the same cases four to six weeks later revealed 231 in this series, of which 203 were mobile.

The usual cause of post-partum retroversion is supposed to be the dorsal decubitus, and it is suggested that frequent change of position will overcome this. It seems doubtful whether the modern idea of early rising will militate for or against. Polak (14) recommends proper postural treatment—*i.e.*, that the patient should assume the right and left lateral prone positions, that she should sit up early and leave bed to evacuate her bowels. In the discussion on this paper, Gallant (15) advised the use of a pessary post-partum. Ziegenspeck (16) has come to the conclusion that bladder over-distension, perimetritis, and parametritis are more common causes than have been supposed—the constant position on the back also predisposing. Bouffe de Saint Blaise (17) found only four retroversions in 495 women examined.

It seems from the above data that retroversion can be avoided. Proper postural treatment is the chief aim.

Every patient should be examined once a month for at least four months after the confinement, when, if displacements are found, they can be easily corrected. Precautions should be taken against bladder over-distension.

*Non-union of the Perineum.*—There were 30 of these in the cases examined. This number seems large, but the difficulty in persuading patients of the humbler class to remain reasonably quiet, or of persuading them to have a secondary operation when the first is unsuccessful, is enormous.

This is not a fit time to introduce the question of the best operation, but the question of suture material is relative. In my first year as Assistant Master in the Rotunda Hospital, with the Master's permission, I experimentalised on about 50 primiparæ in order to find the results from the use of catgut. Although union was fair in these cases they were not nearly as gratifying as those obtained with silk-worm gut. A great disadvantage in catgut for the skin is the tendency to avoid final examination of the wound, so that one may know if the work is satisfactory. Besides, it is a fact well known that catgut is an absorbent material. It is extraordinary how many doctors and nurses will proudly say that they had never had a patient with a lacerated perineum in their practice. How often have they separated the vulvar lips to search for those deep internal tears which are more serious than all the others? Polak (18) suggests a colpeurynter in the vagina before the baby is born to obviate the risk of tears. The main objection to this is the extra manipulation. A secondary operation within a week is very successful in clean cases.

*Sub-involution.*—The uterus was just above the pubes in 27 cases, while discharge of a varied colour was present. Bouffe de Saint Blaise (19) found in 260 women that the uterus was palpable 4-9 cm. above the pubes when examined on the ninth or tenth day. These cases of sub-involution soon yield to treatment, but one cannot urge too strongly the necessity for manual examination of the

inside of the uterus in those women who have a large uterus and a foetid discharge in order that chorion-epithelioma may not be overlooked.

*Miscellaneous.*—There were four cases of parametritis, two of cystitis, two of prolapse, and one of pyosalpinx, and these are of little importance. The cases of prolapse were only slight, and are no criterion, for one would expect prolapse to become serious at a much later date than sixteen days after confinement. Polak and Ziegen-speck (20) both consider cystitis to be due to insufficient emptying of the bladder. Retention of urine is a very unpleasant and awkward complication which is usually found in association with lacerations of the perineum. It is often a nervous condition, and sometimes catheterisation has to be practised for many weeks. Ammonia to the nose often brings instant relief. Rupture of the symphysis pubis is luckily very rare in this country, although Kriwsky (21) collected 134 cases, of which two occurred in his own practice. Scheurer (22) also reports a case. I remember assisting at a subcutaneous pubiotomy where sharp hæmorrhage ensued when the needle was passed up, which was evidently due to its passage over a roughness in the bone where forcible delivery had been accomplished in the previous labour. A partial separation at some part of the pubic bone must often be an accompaniment of a forcible delivery.

*Embolism and Early Rising.*—One of the most discussed questions of the present day is the date when a patient should rise after labour. There have been many papers written on the subject, and a conclusion seems as far distant as ever. In the Rotunda Hospital Report for 1913 (23) Dr. Jellett writes :—“ Provided that their confinement was normal and that there had been no perineal laceration, they were allowed and encouraged to sit up in bed after the first twelve hours, and to get out of bed to pass water if they wished to do so. After forty-eight hours, if they continued well, they were made to leave

their bed at least twice in the twenty-four hours to pass water. After seventy-two hours they were allowed to take a few steps or to sit for a few minutes on a chair or on their bed, the time they remained up being gradually increased so long as their state of health continued good. During the past year I have made no change in this plan, and I have found it most satisfactory," &c.

Various foreign authorities have very different rules for their patients. Polak (24) allows his patients to get out of bed from the commencement to evacuate their bowels, Rosenfeld (25), Simon (26), v. Alvensleben (27), Martin (28), Kronig (29), all believe in early rising. They have found no complications, their patients feel better, and Simon noted a decrease in morbidity. Schucking (30) advises rest in bed with gymnastic exercises. Fromme (31) allows his patients after normal labour to rise for an hour on the second day. One patient died in three days, and the autopsy revealed thrombosis of the left ovarian, renal, and of all the left parametric veins with embolism of the pulmonary artery. He considers that early rising is no preventive for thrombosis, and urges against it. In a question of this kind one must search surgical records, and Burnham (32), in an excellent paper on post-operative thrombo-phlebitis, notes that Klein claims 50 per cent. decrease in thrombosis since adopting early rising; but Burnham's own experience puts him against this form of treatment. Thrombo-phlebitis is preceded by a slowing of the blood-stream and by local and general disease of the vessel walls. Rest in bed, ichthyol locally, lemon-juice internally, as recommended by Almroth Wright, elevation of the limbs, with bandaging, are the best preventives for thrombosis with embolism as its possible sequel. Blanchard Wilson (33), from his studies at the Mayo Clinic, finds that embolism is more common in women than in men, and is comparatively frequent after abdominal hysterectomies, whereas there was no fatal case in 449 vaginal hysterectomies. He

suggests *very* early rising, free movement on the part of the patient, which must be done early enough to *prevent* the formation of extensive thrombi. He suggests drugs, such as the calcium salts, to increase the coagulability of the blood, and preaches the necessity for measures to cause a reduction of bacteræmia. It is impossible to make rules about a question of this kind, for although they *may* be followed by the educated patient, the woman in humble life is unable to follow them. The ideal treatment in a normal case seems to be free movements and gymnastic exercises from the beginning, rest in bed until the fourteenth day, when the uterus will certainly have the protection of the pelvis, and displacements will be less common. This rest in bed will favour involution of the contents of the pelvis, which early walking would seem to prevent.

#### CONCLUSIONS.

1. Cervical laceration after normal labour is very common. If it occurs, and hæmorrhage is present, immediate suture should be practised : if no hæmorrhage, the tear should be sewn in two months, or else a routine examination should be made of all women at the end of their child-bearing period, when all lacerated cervixes should be repaired.

2. Post-partum retroversion of the uterus, when not fixed back by inflammation, is caused by the dorsal decubitus. The best treatment, therefore, is postural. Every patient should be examined once a month for at least four months after confinement.

3. When non-union of a stitched perineum occurs, a second perinæorrhaphy should be done immediately in aseptic cases.

4. No definite dictum can be laid down about early rising until some more statistics are published. In normal clean cases postural treatment and gymnastic exercises are advised.



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ART. X.—*Epidemic Poliomyelitis, or "Infective Paralysis."*<sup>a</sup> By JOHN A. W. PONTON, M.D., Univ. Dubl.

I HAVE the honour to submit to you a brief review of the ætiology, histology, epidemiology, and clinical features of the disease known as epidemic poliomyelitis, or "in-

<sup>a</sup> A Thesis read for the Degree of Doctor of Medicine in the University of Dublin, June, 1913.

fective paralysis," with which I have been brought in contact during the recent outbreak in the Counties of Cornwall and Devon, in my capacity as Medical Officer of Health for one of the urban districts of the latter county.

Acute anterior poliomyelitis has long been recognised as a disease of children under the name of "infantile paralysis," and its clinical features and pathological characteristics are well known to every practitioner.

In recent years, certain districts of Europe, America and Australia have been visited by an epidemic disease, apparently infectious in character, strongly resembling in its clinical and pathological features acute anterior poliomyelitis, and to this disease the name of epidemic poliomyelitis, or "infective paralysis," has been given.

*Ætiology of the Disease.*—The morphology of the virus of this disease is unknown. While there are good grounds for suspecting it to be ultimately particulate, yet it is so minute that the highest microscopic powers fail to render it discernible.

Between the virus of poliomyelitis and rabies there is great similarity: both are ultramicroscopic, and both are filtrable, readily passing through filters which do not transmit the smallest visible bacteria.

The resistance of the virus to heat is small—it is destroyed by half an hour's exposure to a temperature of 45° to 55° C. On the other hand, its resistance to freezing and drying is great. It is readily destroyed by ordinary disinfectants, such as permanganate of potassium, hydrogen peroxide, formaldehyde, and phenol.

The chief method of investigating the disease has been by experiments on monkeys, and such experiments have established the fact that acute poliomyelitis is communicable to monkeys.

An emulsion of the spinal cord of a fatal human case, or of an infected monkey at the height of the disease, is used for inoculation.

After an incubation period of one or two weeks the prodromal symptoms characteristic of acute poliomyelitis

set in, followed in a day or two by paresis and paralysis, and ending finally in atrophy and contracture.

*Histological features of the Disease.*—As its name indicates, the chief lesion found in this disease is an acute inflammation localised in the anterior cornua of the grey matter of the spinal cord.

In most cases, however, the mischief is not confined to the anterior cornua, but the white matter is to some extent also involved, and the brain and pia mater may also participate in the morbid changes.

Microscopic sections of the cord show characteristic lesions. The meninges and anterior fissure are infiltrated with “small round cells”; the grey matter of the anterior cornua shows perivascular infiltration, with discrete groups of small mononuclear cells, and in the acute stage of the disease is swollen and hæmorrhagic. The motor cells of the anterior cornua show striking degenerative changes; they are first seen to be surrounded and infiltrated with phagocytic cells, and finally they entirely disappear, leaving in their place a heap of “small round cells.”

The cerebro-spinal fluid in this disease is generally clear, though exceptionally it may be found to be slightly turbid.

Lymphocytes are present, but polymorphonuclear cells are conspicuously absent, and no bacteria are present.

The amount of albumen is definitely increased; the power of reducing Fehling's solution is retained.

*Epidemiology of the Disease.*—The first epidemic of acute poliomyelitis on record occurred in the fall of 1841 in Louisiana, when some eight or ten cases of hemiplegia or paraplegia were observed within the radius of a few miles in the course of a few months; these cases excited observation and comment, but their true nature and significance were not then recognised.

In the year 1887 an epidemic of 43 cases occurred in Stockholm, and gave rise to the first important literature on the subject.

Since then epidemics have been recognised and described in various parts of the world with increasing frequency, due, doubtless, to greater accuracy of diagnosis. The chief outbreaks were those which took place in Norway and Sweden in the years 1905 and 1906, and which were fully described by Holt and Bartlett, followed by the New York outbreak of 1907.

In 1909 the disease was prevalent in Germany, and it was estimated that one thousand cases occurred in Germany during that year.

The first cases of epidemic poliomyelitis in Great Britain were recorded by Pasteur in 1897, who described seven cases occurring in one family.

Treves reported eight cases in 1898 at Upminster, a small village in Essex.

In 1909 an epidemic of some magnitude occurred in Bristol, and was the subject of an article by Dr. George Parker in the *British Medical Journal*. Thirty-seven cases were then reported.

During the autumn of 1910 various small but interesting outbreaks were reported in various parts of England and Scotland.

From a study of the reports of epidemics of this disease the following conclusions may be drawn as to the main characteristics of its epidemiology :—

1. Epidemic poliomyelitis generally occurs in summer and autumn in temperate climates, though this does not preclude the possibility of cases occurring at other seasons.

2. While there is considerable variation in the age incidence, the majority of cases occur in children under six years of age.

3. Males are attacked more frequently than females.

4. Epidemics are most severe in small towns and rural districts, the larger cities suffering less in proportion to population.

5. Laboratory experiments confirm the conclusion reached by epidemiological study, that the disease is capable of transmission from person to person by direct

contact, though the infectivity and virulence of the causative agent vary greatly in different epidemics. Cases have been recorded where the disease has been borne by abortive cases and healthy "carriers"—playing a rôle similar to "carriers" in enteric fever and diphtheria.

Some observers declare that articles of food, especially milk, may be responsible for transmitting the virus of infective poliomyelitis. Dust, insects, and domestic animals have also been accused of playing a part in the transmission of the disease.

*Clinical Features of Epidemic Poliomyelitis.*—The clinical aspects of this disease are so varied, both in different epidemics and in individual cases occurring during the same epidemic, that it is impossible to draw a succinct clinical picture applicable to all cases.

The prodromal symptoms preceding paralysis are often so indefinite, and have so much in common with the symptoms presented by the onset of any acute infectious or toxæmic disease, that the diagnosis in the early stages, before paralysis declares itself, is frequently a matter of considerable difficulty and uncertainty.

The onset is generally sudden, attacking children in apparently good health, and is often attributed to a "chill," or "influenza," or even to "teething": it is sometimes ushered in by a sore throat.

A sharp rise of temperature is a fairly constant initial symptom, with great prostration and muscular weakness, general malaise, gastro-intestinal disturbances, irritability and restlessness, followed by drowsiness and apathy: somnolence is of frequent occurrence, and sometimes the victim of this disease may remain sleeping for several days, only waking when aroused to take nourishment: occasionally somnolence merges into coma: delirium is rare.

Headache is generally present, but it is seldom so severe as in cerebro-spinal meningitis.

Skin eruptions occur in only a very few cases, and are by no means characteristic; when present the rash generally

takes the form of a papular eruption covering the entire body.

Pain and tenderness in the lower extremities, in the back of the neck, and along the spine, are often marked symptoms in the early stage of the disease, and may be so intense that the weight of the bedclothes is not tolerated, and the distressed patient cannot remain in one position for any length of time. With the onset of paralysis the pain subsides.

Rigidity of the neck with retraction, and sometimes the presence of Kernig's sign, often make the diagnosis from cerebro-spinal fever or tuberculous meningitis extremely difficult.

The reflexes are abolished, but this is sometimes preceded by a preliminary exaggeration.

Following the appearance of some or all of these preliminary symptoms, paralysis, generally of the lower extremities, sets in; the paralysis is sudden, of the flaccid motor type, and reaches its maximum in one or two days; then retrogression takes place, sometimes ending in complete recovery, but more often resulting in permanent paralysis of some group of muscles, followed by atrophy.

From a consideration of the foregoing facts we may conclude that epidemic poliomyelitis or "infective paralysis" is a distinct infectious disease *sui generis*.

Whilst the diagnosis is often a matter of great difficulty and uncertainty, yet the correlation of the clinical picture with the result of lumbar puncture makes a fairly sure *ante-mortem* diagnosis possible, whilst the changes found in the cord *post-mortem* are characteristic.

#### LITERARY NOTE.

THE late Honnor Morten wrote a charming little book entitled "Sketches of Hospital Life." This is of intense interest to the Nursing Sisters belonging to the St. John's Ambulance Brigade and to members of the Red Cross Society. A new edition, to be ready in a few days, is announced by Messrs. Sampson Low, Marston & Co., Ltd.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*A Manual of Infectious Diseases occurring in Schools.*

(Issued by the Association of Preparatory Schools.)

By H. G. ARMSTRONG, M.R.C.S., L.S.A., Medical Officer to Wellington College; and J. M. FORTESCUE BRICKDALE, M.A., M.D., Physician to Clifton College, Assistant Physician, Royal Infirmary, Bristol, Clinical Lecturer, University of Bristol. With chapters on "Infectious Eye Diseases," by R. W. DOYNE, M.A., F.R.C.S., Margaret Ogilvy Reader in Ophthalmology, University of Oxford; and "Ringworm" by H. ALDERSMITH, M.B., F.R.C.S., Medical Officer to Christ's Hospital. Bristol: John Wright & Sons, Ltd. 1912. Pp. 150.

THIS work is issued by the Association of Preparatory Schools for the assistance of masters and mistresses in dealing with cases of suspected infectious diseases occurring amongst their pupils. Though primarily intended for laymen, the book will be of real service to medical men engaged in school practice. Indeed, we think that it will be amongst the latter that its chief use will lie. In some respects the information given is too technical for the lay reader, and points are dealt with which would be much better left to the medical attendant. In a work of the kind this fault is well-nigh unavoidable, and we recognise the difficulties which confronted the able authors in their task.

The chapter on ringworm by Dr. Aldersmith is well worth perusal.

*Supplement to the Quarterly Returns of the Marriages, Births, and Deaths Registered in Ireland during the Year 1911.* Being Statistics regarding the Vaccination of Children whose Births were Registered in Ireland in that Year. London: Published by His Majesty's Stationery Office. 1913. Folio. Pp. 44.

WE regard this Supplement as one of the most important documents that has been published by the Registrar-General for Ireland for very many years. It is rendered all the more impressive by the absence of any commentary on the startling facts which it brings to light. Those facts, to our mind, constitute a very grave peril indeed to the welfare of Ireland. The mine is being laid, and all that is needed to cause an explosion of small-pox—that most loathsome of diseases—is that the fuse should be set alight by the introduction of a chance case from overseas.

From the Vaccination Statistics contained in the Supplement it appears that of the 101,758 children whose births were registered in Ireland during the year 1911, 73,856 were returned as having been successfully vaccinated; 2,990 as having had their vaccination postponed. In 151 cases the vaccinations were returned as unsuccessful on the ground of constitutional insusceptibility of the vaccine disease; 6,434 children died before vaccination; 4,518 were returned as “unaccounted for owing to removal from district or otherwise,” and 13,809 were reported as defaulters who had not been granted an extension of time under Form B., First Schedule. When expressed in percentages, it appears that 72.6 per cent. of the total were reported as successfully vaccinated; 2.9 per cent. were postponed on account of the children being unfit for vaccination; 0.2 per cent. were insusceptible of vaccination; 6.3 per cent. died before they were vaccinated; 4.4 per cent. were “unaccounted for owing to removal from district or otherwise”; and 13.6 per cent. were returned as defaulters.

The following table gives the condition as regards vaccination of the children whose births were registered in the year 1911, as compared with each of the preceding seven years :—



*Returns of Marriages, Births and Deaths in Ireland. 197*

**TABLE I.**—Showing particulars regarding the vaccination of the children whose births were registered in Ireland during each of the eight years, 1904–1911, with their percentage to the total births registered during each year.

Year	Successful Vaccinations (Form A, First Sched.)	Vaccinations postponed (Form B, First Sched.)	Insusceptible of Vaccine Disease (Schedule D)		Died before Vaccination	Unaccounted for owing to removal from District or otherwise	Defaulters who have NOT been granted an extension of time under Form B, First Sched.	Total Births Registered
			On the ground of Constitutional Insusceptibility of the Vaccine Disease	In respect of the Children already having had Small-pox				
1904	84,068	2,184	118	2	7,105	3,774	6,560	103,811
1905	84,326	2,505	90	—	6,624	3,625	5,662	102,832
1906	83,223	2,555	121	—	6,955	4,229	6,453	103,536
1907	81,841	2,360	88	—	6,656	3,567	7,230	101,742
1908	80,504	2,601	96	—	6,808	3,217	8,813	102,039
1909	80,455	2,715	118	—	6,651	3,884	8,936	102,759
1910	78,839	2,754	83	—	6,680	3,694	9,913	101,963
1911	73,856	2,990	151	—	6,434	4,518	13,809	101,758
	%	%	%	%	%	%	%	%
1904	81.0	2.1	0.1	0.0	6.9	3.6	6.3	100.0
1905	82.0	2.4	0.1	—	6.5	3.5	5.5	100.0
1906	80.4	2.5	0.1	—	6.7	4.1	6.2	100.0
1907	80.4	2.3	0.1	—	6.6	3.5	7.1	100.0
1908	78.9	2.5	0.1	—	6.7	3.2	8.6	100.0
1909	78.3	2.6	0.1	—	6.5	3.8	8.7	100.0
1910	77.3	2.7	0.1	—	6.6	3.6	9.7	100.0
1911	72.6	2.9	0.2	—	6.3	4.4	13.6	100.0

From a comparison of the figures relating to the provinces it appears that the successful cases of vaccination in the province of Leinster numbered 16,651, or 61.0 per cent. of the total births registered; in Munster the successful vaccinations numbered 16,512, or 70.2 per cent. of the total births registered therein; in Ulster the successful vaccinations numbered 30,858, or 82.6 per cent. of the total births registered; and in the province of Connaught the number of successful vaccinations reported was 9,835, or 72.3 per cent. of the total births registered.

Detailed information regarding vaccinations for the counties; superintendent registrars' districts (or poor-law unions), arranged by provinces and counties; registrars' districts; and superintendent registrars' districts, arranged alphabetically, will be found in Abstracts I., II., III., and IV., respectively, appended to this Report. Extracts from the notes presented by the Registrars are also published.

TABLE II.—Showing the number of successful primary vaccinations in Ireland during each of the years 1882 to 1911. [Extracted from Quarterly Reports.]

Year	Number of Successful Primary Vaccinations in each year	Year	Number of Successful Primary Vaccinations in each year	Year	Number of Successful Primary Vaccinations in each year
1882	107,613	1892	89,527	1902	94,303
1883	106,961	1893	88,695	1903	95,955
1884	105,021	1894	107,204	1904	91,976
1885	102,680	1895	92,227	1905	89,394
1886	97,137	1896	88,817	1906	90,171
1887	96,866	1897	89,732	1907	89,207
1888	93,520	1898	87,169	1908	88,576
1889	92,621	1899	84,937	1909	86,799
1890	93,368	1900	91,150	1910	88,698
1891	92,267	1901	88,520	1911	84,011

*Returns of Marriages, Births and Deaths in Ireland. 199*

In the foregoing tabular statement the number of successful vaccinations returned for each of the years 1882-1911 is given.

The following table shows the number of deaths from small-pox registered in Ireland in each of the years 1864-1911 :—

TABLE III.—Showing the number of deaths from small-pox registered in Ireland in each of the 48 years, 1864 to 1911.

Year	Number of Deaths registered from Small pox	Year	Number of Deaths registered from Small-pox	Year	Number of Deaths registered from Small-pox
1864	854	1880	389	1896	4
1865	461	1881	72	1897	3
1866	194	1882	129	1898	—
1867	21	1883	16	1899	1
1868	23	1884	1	1900	1
1869	20	1885	4	1901	2
1870	32	1886	2	1902	1
1871	665	1887	14	1903	40
1872	3,248	1888	3	1904	16
1873	504	1889	—	1905	5
1874	569	1890	—	1906	—
1875	535	1891	7	1907	1
1876	24	1892	—	1908	—
1877	71	1893	1	1909	—
1878	873	1894	72	1910	—
1879	672	1895	146	1911	—

It will be observed that the last record of mortality from small-pox in Ireland was in the year 1907, when one death was registered.

*Forensic Medicine and Toxicology.* By C. O. HAWTHORNE, M.D., F.R.F.P.S.G.; Lecturer on Forensic Medicine in the London School of Medicine for Women; Physician to the North-West London and Royal Waterloo Hospitals. Third Edition. London: Edward Arnold. 1912. Pp. 344.

WE have formed a high opinion of Dr. Hawthorne's work as being an excellent students' guide to Forensic Medicine. The style is clear and lucid, and the proportionate values of the various subjects treated appear to be well maintained. Hence it will be found to be an easy book to read and from which to make up the subject. The paper and printing leave nothing to be desired. It is much more difficult to condense knowledge and to choose wisely what is to be included and what omitted than it is to write a large and exhaustive book. We consider that Dr. Hawthorne has been quite successful in these respects. While the chapters on each subject are short, they are nevertheless reliable and sufficient.

We think that the author has, perhaps, attributed too little value to the precipitation test for blood. "These tests promise," he says, "to be of considerable medico-legal value in the hands of experts." We think that promise has been fulfilled. It might also have been well to mention that this test is not primarily one for *blood*; it will act with other fluids, such as semen, as well as with blood.

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*The Practitioner's Encyclopædia of Medicine and Surgery in all their Branches.* Edited by J. KEOGH MURPHY, M.C., F.R.C.S. Second Edition. London: Henry Frowde, Oxford University Press, and Hodder & Stoughton. 1913. 4to. Pp. xxvi + 1443.

THE fact that a large edition of this work has been exhausted between September, 1912, and April, 1913, quite absolves the reviewer from making any laboured efforts in commendation. It is sufficient for us to congratulate Mr. Murphy on his success, and to express the opinion

that his work merits its continuance. An important feature in the new edition is the amplification of the index, a change that will make the work even more accessible than it was to the busy practitioner.

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*Dr. Ephraim McDowell, "Father of Ovariectomy": His Life and Work.* By AUGUST SCHACHNER, M.D., Louisville, Ky. Reprinted from the Johns Hopkins Hospital Bulletin, Vol. XXIV. No. 367. May, 1913. 8vo. Pp. 17 and four Plates.

THE operation of ovariectomy has now become such a commonplace and safe procedure that it is difficult for us to realise the terrible condition of women with cystic ovaries in the early part of the last century. The tumours grew to an enormous size, and made the unfortunate woman's life literally a burden to her. While this was so, the operation of puncture, or tapping the cyst—the only means of giving relief—was attended with a frightful mortality. A. de Krassowsky, writing on this subject in 1868, states that in five years he operated in this way on forty-three patients, with one complete cure, one doubtful cure, and thirty-four deaths—the history of the remaining seven patients not being known. It was instead of the treatment that produced these results that the operation of ovariectomy was introduced.

Ephraim McDowell, who was the first to devise and to perform successfully this operation, was born in Virginia in 1771, and for a while studied surgery in Edinburgh under John Bell, but left the University without taking any degree. Tradition asserts that McDowell's forefathers had come to the North of Ireland from Scotland during the Commonwealth, and it is known that his great-grandfather assisted in defending of Derry against James II. in 1689. Subsequently, in the early part of the eighteenth century he emigrated to America, and settled in Virginia. Dr. Schachner denies the right of Ireland to make any claim to the ancestry of McDowell; but there is no doubt that his family was for many years

resident in the country, and the name has been well known and respected there for considerably more than two centuries.

The story of Ephraim McDowell's life and work has been told several times, but it will well bear repetition, and even yet it does not seem to be known as it should. Those of us who are old enough to remember the dread with which the operation of ovariectomy was looked upon in the seventies and eighties of the last century can appreciate the work of McDowell in 1809. As a previous biographer has said :—" When we think of one living on the border of Western civilisation, in a little town of five hundred inhabitants, far removed from the opportunity of consultation with any one whose opinion might be of value, and nearly a thousand miles from the nearest hospital or dissecting room, performing a new and untried operation of such magnitude upon the living, before the days of anæsthesia, with a full sense of the responsibility and danger, without skilled assistants, our admiration for McDowell's courage and skill rises to its full height."

We tender our thanks to Dr. Schachner for his work in perpetuating the fame of such a man.

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*How to diagnose Small-pox.* A Guide for General Practitioners, Post-Graduate Students, and others. By W. M'C. WANKLYN, B.A. Cantab.; M.R.C.S., L.R.C.P., D.P.H.; Assistant Medical Officer of the London County Council, and formerly Medical Superintendent of the River Ambulance Service (Small-pox) of the Metropolitan Asylums Board. With Illustrations. London: Smith, Elder & Co. 1913. Demy 8vo. Pp. xi + 104.

THE early diagnosis of small-pox is a matter of grave importance, not only because of the appalling character of the disease in its more malignant forms, but because of the risk to the community if the disease should not be recognised at the very start of an outbreak.

The author is well qualified for his self-imposed task

in writing this book. He was formerly Medical Superintendent of the small-pox receiving stations and river ambulance service of the Metropolitan Asylums Board, and is now an Assistant Medical Officer of the London County Council. In these responsible positions he gained an experience of small-pox which must be almost without a parallel. It extended over twenty years, and has been based on the revision of the diagnosis in about 10,000 cases certified as small-pox and sent from London in the epidemic of 1901 and 1902 to the small-pox receiving stations in the Thames. Experience so vast and wide must command attention. But, apart from this, the book is written in such an easy style and in such simple and colloquial language that it is quite refreshing to read its well-leaded, large-typed pages. We suppose we must accept without demur the colloquial verb "diagnose" in lieu of the grammatical form "diagnosticate."

Dr. Wanklyn is somewhat iconoclastic in his views. In arriving at a diagnosis he properly postpones the patient's medical history to the last. "It seems to me," he writes (page 29), "that, if the man is accused of small-pox, so to speak, and you are to judge and sentence him, the evidence which ought to weigh most with you is your own direct observation, and the reading of what is before you." "To be groping about for a history is to lean upon rotten supports which you are better without. Sir George Murray Humphry used to say, of examining cases in general, 'Eyes first. Hands next. Tongue last and least.'" (Page 34.)

We do not go so far with him when he minimises the diagnostic value of the "shottiness" and "umbilication" of the rash of small-pox. He reverses the order of these words, so erring against chronology. His words are: "It is a characterisation absolutely wide of the mark for purposes of diagnosis" (page 36). This is going too far, but we agree with the author that it has been the practice to attach more importance to these characters than they deserve. Dr. Wanklyn further dismisses with scant courtesy the further classical sign of "loculation"—"the

small-pox vesicle is *said to be* multilocular and the chicken-pox vesicle to be unilocular." We agree with him that this "is not always the case," but we do not agree with him that the point is of little assistance in practice—at least in the vesicular and early pustular stages of the small-pox eruption.

Curiously enough, in the other direction, Dr. Wanklyn, to our mind, lays undue stress as a diagnostic of small-pox on the fact that the rash especially favours sites of irritation. This is perfectly true, but such a distribution of the rash peculiar to other eruptive fevers such as scarlatina and measles and also chicken-pox is quite common. The principle of "*ubi irritatio, ibi affluxus*" was recognised long ago. The opposite holds good also, for Dr. William Stokes based his preventive treatment of pitting in small-pox on the observed fact that the rash was scanty and the inflammation slight over portions of the body-surface the vascularity of which had been reduced. Stokes's paper was published in the fifty-third volume of this Journal in the year 1872. It is replete with sound, practical advice.

The author very properly alludes to early and extreme prostration as a feature of severe small-pox. He considers that it is a characteristic feature, which may be of material assistance in diagnosis. But we must remember that this symptom is common to small-pox, typhus and pneumonia.

As to differential diagnosis, Dr. Wanklyn mentions (Chapter VIII.) that in the year 1902, of 7,842 cases certified in London as small-pox, and sent to the Receiving Stations, 607 were found not to be small-pox. We are not surprised to find 203 cases of chicken-pox among the number. "Generally speaking," writes Dr. Wanklyn, "the resemblances between small-pox and chicken-pox are very remarkable; so much so as to suggest they are descended from a common ancestor" (page 90). To this suggestion we cannot subscribe, while we admit that striking resemblances exist between the two diseases. "The conclusion is that there is no single touchstone for the differentiation of small-pox and chicken-pox."



While this is true, at least a dozen valid reasons may be advanced to show that these diseases are entirely distinct.

Dr. Wanklyn rightly lays stress on the diagnostic and prognostic significance of the so-called "bathing-drawers" rash ("eruption de caleçon de bain") in purpuric small-pox. The distribution in the groins of this ominous initial rash is well shown in a series of diagrams inserted between pages 84 and 85.

The subject-matter of the book is further illustrated by a number of telling photographs of small-pox and chicken-pox, and by a chart showing the prevalence of small-pox in London between 1885 and 1912.

J. W. M.

*Diseases of the Mouth: Syphilis and Similar Diseases.*

For Physicians, Dentists, Medical and Dental Students.

By PROFESSOR DR. F. ZINSSER, Director of the Department of Dermatology at the City Hospital, Lindenburg; Dozent at the Academy for Practical Medicine, Cologne. Translated and Edited by JOHN BETHUNE STEIN, M.D.; Professor of Physiology at the New York College of Dentistry; late Instructor in Genito-Urinary Diseases at the College of Physicians and Surgeons (Medical Department of Columbia University), New York City. With 52 coloured and 21 black and white illustrations. London: Rebman, Ltd. Pp. 269 + xvi.

THIS is an excellent work upon the subject of which it treats. For descriptive purposes the book may be said to consist of two parts. The first sixty-seven pages consist of a *résumé* of the modern literature of syphilis, and it constitutes an efficient exposition of the subject. The second portion of the book partakes of the nature of an atlas of venereal and other pathological conditions affecting the mouth and throat. The book supplies a want, and a very distinct one, for those who have not opportunities for observing in their routine practice the important conditions which the illustrations depict. It will furnish medical and dental practitioners not only with a clear, concise,

and ample monograph on syphilis, but also with the means of readily distinguishing the lesions produced in the mouth and throat by this disease from those due to other pathological causes, and, further, it will incidentally enable the precise nature of the latter to be similarly diagnosed.

The following are some of the conditions illustrated and described in the work before us :—Gummatous perforations, mercurial ulcerations; lichen ruber planus; idiopathic polymorphous erythema; herpes labialis; aphthous ulcer; follicular tonsillitis; syphilitic tonsillitis; Plant-Vincent angina; mycotic tonsillitis; the geographical tongue; leukoplakia; tuberculosis of the mucous membrane of the hard palate; tuberculosis of the fauces, soft palate and uvula; cancer of the tongue; gumma of the tongue.

We found Professor Zinsser's book interesting and instructive, and have pleasure in recommending it to our readers.

S. S.

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*The Modern Hospital: Its Inspiration; its Architecture; its Equipment; its Operation.* By JOHN ALLAN HORNSBY, M.D., and RICHARD E. SCHMIDT, Architect. With 207 Illustrations. Philadelphia and London: W. B. Saunders Company. 1913. 8vo. Pp. 644.

It is not often in this country that any one has the opportunity of designing or building a modern hospital, and in most instances one has to be content with the adaptation of existing buildings to the requirements of modern medicine and surgery. Even when opportunity does occur, the available funds are usually so limited that one has to be content with a building which too often is far from satisfactory. It is probably due to this lack of opportunity that so little attention has been devoted to the problems of hospital building in this country. Whether this be the true explanation or not, it is quite evident that very few of those who have the management of our hospitals have ever set themselves to understand or to solve the many problems of efficient hospital con-

struction and equipment. Yet surely these problems are worthy of the most careful study, for the efficient and economical working of the hospital largely depends on its proper construction and equipment at the outset. The great difficulty, of course, lies in the fact that medical men who are to use the place know little, if anything, of architecture, and the architects who undertake the construction seem to know nothing of the needs of those who are to use their building.

In the book before us some attempt has been made to overcome this difficulty, and Dr. Hornsby, who, as Secretary of the Hospital Section of the American Medical Association, has had considerable experience of hospital management, has associated with him Mr. Richard E. Schmidt, an architect of considerable experience. The result of this collaboration is to afford a mass of material on almost every point in connection with hospital building and equipment. The work, of course, largely embodies the individual experience of the joint authors, and as such will not receive universal acceptance, but it is the experience of individuals who have closely studied the subject and are ready to give reasons for the faith that is in them. Even the most minute details have been considered, and plans have been accepted or rejected as they may have been found useful or otherwise in practice. An instance of this may be seen in the section dealing with vacuum cleaners. Having described the various methods for using this means of removing dust, the authors go on to say "hospital administrators need not expect to cut down their cleaning by other means when they install vacuum cleaners. The same amount of hand cleaning will have to be done. In short, the vacuum cleaner is a most attractive device theoretically, and has more good 'talking points' than almost any other hospital convenience."

In such a wealth of material it is impossible to particularise, but we should recommend all those who have to deal with the administration of our hospitals to consult this book before they decide on any plan of reconstruction or equipment of the hospital under their charge.

*The Prospective Mother.* By J. MORRIS SLEMONS.  
London : D. Appleton & Company. 1913. Cloth 8vo.  
Pp. 343.

THE author of this book has in view the thorough instruction of the educated mother in both the hygiene of pregnancy and also the preparation for the confinement itself. The book treats of the whole subject in a wonderfully simple and explicit style, avoiding technical terms other than those which are explained ; but many members of the general public would be rather alarmed at so much instruction being given. To a sensible, well-educated woman the book should prove most interesting, however, and will impart knowledge in a pleasant, easy way.

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*Diseases of Women : a Clinical Guide to their Diagnosis and Treatment.* By GEORGE ERNEST HERMAN, M.B., F.R.C.P. Lond., F.R.C.S. Eng. ; Consulting Obstetric Physician to the London Hospital ; Consulting Physician-Accoucheur to the Tower Hamlets Dispensary ; late President of the Obstetrical Society of London and of the Hunterian Society, &c. Enlarged Edition, revised by the Author, assisted by R. DRUMMOND MAXWELL, M.D. Lond., F.R.C.S. Eng. ; Assistant Obstetric Physician to the London Hospital and Physician to Queen Charlotte's Lying-in Hospital. With 8 Coloured Plates and 292 figures in the text. London, New York, Toronto, and Melbourne : Cassell & Co., Ltd. 1913. Pp. xiv + 899.

THE main alteration in the new edition of Dr. Herman's work is the introduction of Dr. R. D. Maxwell to help in the revision of the parts of the book relating to operative technique. For the most part Dr. Maxwell's descriptions of operations are good, though often they are somewhat sketchy. The rest of the book is as it has always been, and needs a very thorough revision to make it descriptive of modern gynæcology.

## PART III.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ROYAL ACADEMY OF MEDICINE IN IRELAND.

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President—WALTER G. SMITH, M.D., F.R.C.P.I.  
General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

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#### SECTION OF PATHOLOGY.

President—PROFESSOR A. H. WHITE.  
Sectional Secretary—W. BOXWELL, M.D., F.R.C.P.I.

*Friday, May 2, 1913.*

THE PRESIDENT in the Chair.

#### *Organs from a Case of Amyloid Disease.*

SIR JOHN MOORE said amyloid disease was sufficiently rare at the present day to warrant exhibition. The specimen shown was taken *post-mortem* from a man, aged forty-six, who had been admitted to the Meath Hospital on the 11th of November, 1912. When admitted the patient was in a state of extreme emaciation. He gave a history of pains in his right hip and knee. About seven months prior to admission the right hip began to discharge. The right leg was noticed to be wasted when compared with the left, and the hip showed two discharging sinuses. The pus was described as thin, watery, and of a yellow colour. An interesting feature of the case on physical examination was the prominence of the upper part of the abdomen as compared with the generally wasted condition of the patient. The liver was much enlarged, hard, and smooth. The left side also was occupied by a large tumour, which at first was taken to be

the spleen. Cultures were made from the pus discharged from the sinuses, and the patient was injected with 10 millions of a pseudo-diphtheria bacillus. Subsequently, *Staphylococcus aureus* was isolated, and he was four times injected with a vaccine prepared from this, containing 200,000,000 or 250,000,000 organisms, but this treatment did not appear to do him any good. The patient's temperature throughout was sub-normal. He gradually sank from exhaustion.

At the autopsy, the liver was found enormously and uniformly enlarged, hard, and smooth. It weighed 152 ounces. In one of a series of six illustrative cases reported by Murchison the liver was stated to have weighed 131 ounces, and it was described as smooth and moulded over the adjacent parts; in another of the same series the liver weighed 184½ ounces, both lobes were equally enlarged, and the under surface was marked by deep impressions corresponding to the right kidney on one side and to the spleen on the other. According to Dr. Hale White, an amyloid liver may weight 14 lbs.—that is 224 ounces.

The tumour which was thought to be the spleen was found to be the left lobe of the liver. The right kidney was embedded in the right lobe, and the left kidney had moulded itself into the amyloid spleen, which in turn had made for itself a bed in the left lobe of the liver. These points were considered interesting from the clinical as well as the pathological point of view. Here and there over the surface of the liver and kidneys a few miliary tubercles were to be seen and also in the spleen. Sections of the liver stained a mahogany colour with Lugol's iodine solution, and when subsequently treated with sulphuric acid yielded a bluish colour. The spleen was but slightly enlarged, with mere traces of amyloid material distributed here and there through the pulp. The amyloid change was more pronounced in the kidneys, showing up in sections stained with methyl violet.

PROFESSOR METTAM referred to cases of amyloid disease met with in the lower animals, and pointed out that in such cases the syphilitic element had to be excluded. It was by no means uncommon in his experience to find this disease in a certain number of cases in connection with tubercle. It was also occasionally met with in the horse, often without

anything to account for it. The clinical history in such cases was usually that the horse died suddenly with symptoms of ruptured liver, and amyloid disease was found on *post-mortem* examination. He mentioned that amyloid disease was not at all uncommon in animals used for the production of anti-toxic serum, and he suggested that its origin appeared to be toxic. It was remarkable that the amyloid infiltration occurred generally in the walls of the smaller vessels. He would like to know if the condition was a diffuse one, or was the spleen of the sago type. He inquired if an extended examination of the tissues was made to ascertain if there were any deposits in the heart, tongue, or other organs. He also inquired if any deposits were found in the central nervous system, and whether any change had been observed in articular or other cartilages.

DR. BOXWELL said there was not much disease in the spleen, and what was there was diffuse. Microscopic sections were not made of the heart, nor was the central nervous system examined.

*Post-mortem* examinations were strictly limited, and thorough investigation of the points raised by Professor Mettam on the average hospital patient was impossible.

SIR JOHN MOORE, in replying to the remarks, said the intestines were examined, but were not found to be materially altered. The heart was singularly small, but otherwise apparently healthy. As to the size of the enlargement, it was pointed out that Hale White reported a case of amyloid liver weighing 14lbs. In the "Pathological Transactions" a sarcoma of the liver was recorded as weighing 17lbs. The spleen was not a characteristic sago spleen. The lesion in the hip was tubercular, but it was recognised that in man amyloid disease does not accompany tubercle unless suppuration took place, and of course there was much suppuration in this case.

#### *Carcinoma of the Larynx.*

DR. H. STOKES said that the patient from whom this specimen was taken was a man who was admitted to the Meath Hospital in a state of *delirium tremens*. Attention was drawn to the fact that he could not swallow. He ran a temperature for about a week and then developed a cough with expectoration. Death resulted from pneumonia and heart

failure. On *post-mortem* examination an abscess was found in the larynx and tubercle in the lung.

PROFESSOR A. C. O'SULLIVAN said that both lungs were tuberculous; one showed miliary tuberculosis and the other a large focus. The pharynx on the right side showed a large, deep ulcer. It was gangrenous and greenish in colour when fresh. On the opposite side there were a couple of apparently papillomatous growths. The impression from a naked eye examination was that the ulceration was tuberculous. There was great œdema of the glottis. It was discovered that both sides of the pharynx were cancerous. The epithelial cells were deep down in the fibrous tissue.

#### *Tubercle of the Cerebellum.*

DR. W. BOXWELL exhibited a specimen of the above, which was taken from a boy, aged ten years, the only child of a father dead of phthisis. He was admitted to the medical wards for observation on the 15th of January, 1913, having a somewhat vague history of headache, vomiting, and defective sight. He was a well-developed, intelligent child, and explained that he had had severe headache at fairly frequent intervals, but that vomiting came on when playing or romping, rather than after food, or when at rest.

On physical examination his gait was found to be strutting in character, with some ataxia, but without tendency to reel to one or other side. The jerks were variable, but generally increased, especially in the right leg, and a clonus could sometimes be developed. The plantar reflexes were also variable, sometimes quite active, at other times absent. The abdominal reflexes were present, the right cremasteric generally absent. Nystagmus was marked. Sight for distant objects was bad. There was no complaint of vertigo, no history of fits, and there was no tremor. His hearing was good. His pupils were large and even, tongue normal. On the 1st of February, after getting out of bed, he became giddy and fell, and about this time he had his first and only attack of vomiting. On the 4th of February a "lower neuron" paralysis of the left facial nerve set in, followed on the 8th of February by deafness in the left ear. At this stage Dr. Euphan Maxwell kindly examined his eye grounds, and reported "double-choked disc," with atrophy in the left eye." On the 9th of February he had an attack



of convulsions. The diagnosis of a growth of some sort, probably tubercular, situated in the left lobe of the cerebellum, was now partly obvious, and the almost sudden development of dysdiadochokinesis of the left arm strengthened the impression.

A decompression operation, with a view to saving his sight was now undertaken by Mr. William Taylor, but the child never quite recovered from the shock of the operation, and died two days after.

A large tubercular mass, one and a quarter inches in diameter, was found at the *post-mortem*, occupying the left lobe of the cerebellum, and displacing the right lobe considerably to the right side. No other evidence of tuberculosis was found.

#### *Pathological Report of the Rotunda Hospital.*

[DR. ROWLETTE'S Report will be found in full at page 173.]

DR. O'FARRELL asked if autogenous vaccines were made from the lochia, and how the infecting bacteria had been isolated. He also was anxious to know how the results of autogenous vaccines compared with those of stock vaccines. He inquired if there was any method of distinguishing tubercular pyosalpinx.

DR. O'KELLY inquired if cultures were made from the thrombosed ovarian veins. Arising out of one of the specimens, he would like to know if the uterus had been examined, as it was suggested that the blood-vessels dilate within the area of the uterine artery.

THE PRESIDENT, referring to the bacillus found in the discharges, said that within the last eighteen months he had obtained a pseudo-diphtheritic bacillus from such a case. The condition was a very chronic one, and got well only by inoculation with vaccine.

DR. ROWLETTE said, with regard to the bacillus in the lochia, the vaginal discharge in cases of puerperal sepsis was never examined, the reason being that this discharge contains such a quantity of organisms that it would be difficult to separate one from the other. His practice was to obtain the discharge direct from the uterus. In every case the patient is treated first with a stock vaccine made from some other

patient, and if she reacted well, the treatment with this vaccine is continued, and an autogenous vaccine is not prepared. In cases that did not react to the stock vaccine, if the organism can be isolated an autogenous vaccine was made. The results with autogenous vaccine were best.

As to the diagnosis of pyosalpinx, in nearly all cases that came to operation the pus was sterile, and one had to decide by direct microscopic means. Occasionally streptococcus was met with. The diagnosis of tubercle he had never made from microscopic examination. He considered that tuberculous tubes fell into either one or other of two types—*i.e.*, peritoneal or mucous. In the majority of cases of tuberculosis the infection was found near the Fallopian end of the tube rather than the uterine end, the latter being free except in very advanced cases. With regard to the type of sarcoma, the type he had most commonly seen was the large round-celled variety. He had seldom seen giant cells. He had never observed the growth of new vessels inside the uterus after the termination of pregnancy.

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*Friday, May 30, 1913.*

THE PRESIDENT in the Chair.

*Congenital Sacral Tumours.*

DR. W. D. O'KELLY read a paper on this subject, and illustrated it with lantern slides.

PROFESSOR O'SULLIVAN suggested that the material described as heart muscle might be voluntary striped muscle. He thought it was the case that in some dermoid cysts of the ovary small solid portions are found which may contain a great variety of different structures.

DR. T. T. O'FARRELL suggested that Dr. O'Kelly should mount some of the sections and present them to the College Museum. He inquired if Dr. O'Kelly had met with parasitic cysts in the region.

DR. BOXWELL was not sure as to the theory about dermoid cysts.

DR. O'KELLY, replying to the remarks, said as to the heart muscle, he did not see anything that he considered distinctive, but he thought the fibres were short. He con-

sidered that the ovarian dermoids were really teratomata. He did not know that parasitic cysts were likely to grow in that situation.

### *Innominate Aneurysm.*

DR. PARSONS said the subject of this disease was a painter. He was admitted to hospital complaining of painful swelling in his neck. Until twelve months before this he enjoyed perfect health. The first symptom was a sharp, stinging pain in the shoulder, which would disappear when the limb was rested. About May, 1912, a tender swelling about the size of a marble was noticed about the middle of his collar bone. Shortly afterwards he had a sore throat, and lost his voice, but had no difficulty in swallowing. This was followed by tenderness at the shoulder, and a pain of a sharp, shooting nature ran up along his neck behind the ear. On the 18th of March, 1913, there was complete abductor and adductor paralysis of the right recurrent laryngeal nerve. The right arytenoid and vocal cord remained perfectly immobile on respiration and vocalisation, and the right vocal cord was slightly more prominent than the left, and the true vocal cord on the right side also appeared rounded or thickened.

The tumour increased with extraordinary rapidity, and the patient succumbed six weeks after admission. Sleeplessness was a very common symptom, and morphine was given hypodermically. Shortly before death a very offensive odour came from his breath. Examination of the blood gave a well-marked positive Wassermann. A slide, showing the size and position of the swelling about a week before death, was thrown on the screen.

DR. ADRIAN STOKES showed the aneurysm removed *post-mortem*, and described its position.

### *Ruptured Thoracic Aneurysm.*

DR. BOXWELL showed a specimen which was taken from a man aged fifty. He was admitted to hospital spitting blood. There was a history of blood-spitting for two years, and he had dulness and crepitation all over the left lung. He was too weak for a complete examination on admission, and the case was thought to be one of tubercular pneumonia. After a second hæmorrhage the patient died.

*Post-mortem* examination showed the left lung bound up by adhesions, and an aneurysm, which was adherent to the pleura, had burst into the substance of the left lung. It had also eroded the vertebræ. The specimen showed that the rupture of an aneurysm is not necessarily attended with a very sudden termination of life.

#### *Malignant Endocarditis.*

DR. A. STOKES, for DR. T. G. MOORHEAD, said the patient was a man, aged about thirty, who came to the dispensary complaining of pain in the abdomen. No cause could be found for the pain, but an examination of the heart discovered a double aortic murmur. He was admitted to hospital and died next morning. The patient was in the habit of drinking to excess, and had a distended stomach. The urine contained albumen and tube-casts.

*Post-mortem* examination showed the lungs to be normal, but there was a densely adherent pericarditis. The heart was very much enlarged, the right side was normal, but the left side showed ulcerative endocarditis of the valves. There was a certain amount of underlying chronic endocarditis, and the valves were calcified and hard.

A pure culture from the valves gave a cross between streptococcus and pneumococcus. A point of interest in the case was that one of the branches of the mesenteric artery had a double aneurysm on it.

#### *Tumour of the Mesentery.*

DR. H. DE L. CRAWFORD said the subject from whom the tumour was taken was a woman of sixty-two. She complained of tumour in the pelvis, which was going on for about a year. It grew steadily from the time it was first noticed. She was troubled with constipation, which got steadily worse, and occasionally vomited when she took solid food.

The diagnosis was not clear before operation. On opening the abdomen a tumour was found which was freely movable and easily removed. There was a large hole in the gut, communicating with the tumour. Sections of the tumour showed that it was a round-celled sarcoma. He suggested that the hole was an ulcer due to the tumour penetrating the wall of the gut at that point.

*Congenital Cystic Kidneys.*

DR. HENRY STOKES said the patient was aged twenty-eight, and was found to be suffering from an enormous abdominal tumour. The only point in the previous history was that there was a certain amount of constipation. The diagnosis was not certain. The abdomen was opened, and a small amount of tumour was taken out, and proved to be kidney tissue in a cystic condition. The patient died, and *post-mortem* examination discovered double cystic kidneys. Instead of 10 grains to the ounce urea, the urine contained only 5 grains, but the excretion of the urine was excessive. The kidneys weighed 8lbs. and 9lbs. respectively.

*Congenital Cystic Kidneys.*

DR. T. T. O'FARRELL showed two specimens. One of the kidneys weighed 2lbs. 6oz., and the other 5lbs. The age of the patient was twenty-nine. There was very little of the kidney substance left, and even what was to be seen was cystic. There was also a stone found in one of the kidneys. The patient came for treatment of interstitial nephritis.

*Congenital Cystic Kidney from a Calf.*

PROFESSOR METTAM showed a specimen of cystic kidney removed from a calf. When fresh the kidney had the appearance of a huge frog spawn.

*Actino-bacillosis.*

PROFESSOR METTAM also showed a specimen of actino-bacillosis of the ox's tongue. He said the organism was a small non-gram staining one, which was easily grown, and when it was inoculated into oxen developed large clubs. In actino-bacillosis there was a tendency to pus-formation.

He also showed a tumour taken from a pig in which there appeared to be a number of necrotic sinuses which were softened sinuses containing pus and streptothrix.

# SANITARY AND METEOROLOGICAL NOTES.

## VITAL STATISTICS.

*For four weeks ending Saturday, July 12, 1913.*

### IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended July 12, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 15.5 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, July 12, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000 :—

COUNTY BOROUGH, &c.	Week ending				Average Rate for 4 weeks
	June 21	June 28	July 5	July 12	
<b>27 Town Districts</b>	<b>16.5</b>	<b>16.7</b>	<b>16.4</b>	<b>15.5</b>	<b>16.3</b>
Dublin Reg. Area ...	17.5	14.9	16.8	19.9	17.3
Dublin City ...	19.3	16.1	19.1	21.8	19.1
Belfast ...	14.0	16.9	15.9	14.2	15.3
Cork ...	17.0	16.3	16.3	15.6	16.3
Londonderry ...	14.0	15.3	15.3	8.9	13.4
Limerick ...	19.0	10.8	13.5	16.2	14.9
Waterford ...	38.0	26.6	17.1	11.4	23.3

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain

epidemic diseases registered in the 27 districts during the week ended Saturday, July 12, 1913, were equal to an annual rate of 1.7 per 1,000. Among the 108 deaths from all causes in Belfast were 3 from scarlet fever and 7 from diarrhoeal diseases. One of the 23 deaths from all causes in Cork was from typhus. Two deaths from enteric fever are included in the 12 deaths from all causes in Limerick. Included in the 6 deaths from all causes in Waterford are 2 from measles and one from diarrhoea of a child under 2 years of age. One of the 3 deaths from all causes in Newry was from measles, and one of the 4 deaths from all causes in Tralee was also from measles.

### DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 403,000; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended July 12 amounted to 223—111 boys and 112 girls, and the deaths to 166—88 males and 78 females.

### DEATHS.

The deaths registered, omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 19.9 per 1,000 of the population. During the twenty-eight weeks ending with Saturday, July 12, the death-rate averaged 21.2, and was 1.7 below the mean rate for the corresponding portions of the ten years, 1903–1912.

The total deaths registered, numbering 166, represent an annual rate of 21.5 per 1,000. The annual rate for the past twenty-eight weeks was 22.6 per 1,000, and the average annual rate for the corresponding period of the past ten years was 24.1 per 1,000 of the mean population for all deaths registered.

The registered deaths included 4 from scarlet fever, 3 from whooping-cough, 4 from diphtheria, 1 from influenza, and 10 deaths from diarrhoea or enteritis of children under 2 years of age.

In the preceding three weeks deaths from scarlet fever had

been 0, 0, and 0 ; deaths from whooping-cough, 4, 0, and 2 ; deaths from diphtheria, 2, 0, and 3 ; deaths from influenza, 2, 0, and 1 ; and deaths from diarrhoea or enteritis of children under 2 years of age, 3, 7, and 4, respectively.

Deaths from tuberculous disease, which in the three preceding weeks numbered 30, 24, and 27, respectively, fell to 19 in the week under notice, including 15 from pulmonary tuberculosis, one from tubercular meningitis, 2 from abdominal tuberculosis, and one from disseminated tuberculosis.

There were 10 deaths from cancer..

Six deaths were caused by broncho-pneumonia, 3 by lobar pneumonia, and 3 by pneumonia (type not distinguished).

The deaths of 7 infants under one year of age were ascribed to premature birth, and 6 deaths were attributed to congenital debility.

Organic diseases of the heart caused 14 deaths and bronchitis 13 deaths.

Two deaths attributed to accident were caused by a motor-cycle collision.

In 5 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 3 infants under one year old.

Forty-six of the persons whose deaths were registered during the week under notice were under 5 years of age (30 being infants under one year, of whom 16 were under one month old) and 40 were aged 65 years and upwards, including 29 persons aged 70 and upwards. Among the latter were 12 aged 75 and upwards.

## STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1899," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin ; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District ; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District ; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District ; by the Executive



Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended July 12, 1913, and during each of the preceding three weeks. An asterisk (\*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Group	Pyrexia (origin uncertain) <sup>a</sup>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis ( <i>Phthisis</i> ).	Acute Polio-myelitis	Total
City of Dublin	June 21	•	•	13	-	-	3	-	1	1	1	-	•	-	18	-	37
	June 28	•	•	22	-	-	14	-	-	3	3	-	•	-	14	-	56
	July 5	•	•	12	-	-	5	-	-	3	3	-	•	-	14	-	37
	July 12	•	•	11	-	-	5	-	1	2	6	-	•	-	16	-	41
Rathmines and Rathgar Urban District	June 21	•	•	-	-	-	2	-	-	-	-	-	•	•	•	•	2
	June 28	•	•	2	-	-	-	-	-	1	-	-	•	•	•	•	3
	July 5	•	•	-	-	-	3	-	-	-	1	-	•	•	•	•	4
	July 12	•	•	1	-	-	1	-	-	-	-	-	•	•	•	•	2
Pembroke Urban District	June 21	10	-	-	-	-	1	1	-	1	1	-	2	•	-	•	16
	June 28	-	-	-	-	-	-	-	-	-	1	-	1	•	-	•	2
	July 5	-	-	-	-	-	2	-	-	1	-	-	-	•	2	•	5
	July 12	-	-	-	-	-	-	-	-	-	-	-	3	•	2	•	5
Blackrock Urban District	June 21	•	•	1	-	-	-	-	-	-	-	-	•	-	•	•	1
	June 28	•	•	-	-	-	3	-	-	-	-	-	•	-	•	•	3
	July 5	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
	July 12	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
Kingstown Urban District	June 21	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	-
	June 28	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	-
	July 5	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	-
	July 12	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	-
City of Belfast	June 21	•	•	49	-	-	2	-	-	-	7	-	•	•	8	-	66
	June 28	•	•	48	-	-	8	-	-	-	1	-	•	•	15	•	72
	July 5	•	•	32	-	-	7	-	1	1	5	-	•	•	11	•	57
	July 12	•	•	33	-	-	3	-	-	-	4	-	•	•	9	•	49

<sup>a</sup> Continued Fever.

### CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended July 12, 1913, 2 cases of enteric fever were discharged from hospital, there was one death, and 21 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 26, 31, and 24.

Two cases of measles were discharged from hospital, and 6 cases remained under treatment at the close of the week. At

the end of the 3 preceding weeks such cases were 11, 10, and 8 respectively.

Eighteen cases of scarlet fever were admitted to hospital, 22 were discharged, there were 4 deaths, and 76 cases remained under treatment at the close of the week. At the close of the 3 preceding weeks the cases in hospital were 80, 81, and 84 respectively. This number is exclusive of 22 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital.

Eight cases of diphtheria were admitted to hospital, 2 were discharged, and there was one death. The cases in hospital, which at the close of the 3 preceding weeks numbered 37, 36, and 36, respectively, were 41 at the close of the week under review.

In addition to the above-named diseases, 7 cases of pneumonia were admitted to hospital, 5 were discharged, and 21 cases remained under treatment at the end of the week.

#### ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, July 12, in 96 large English towns (including London, in which the rate was 11.1) was equal to an average annual death-rate of 11.4 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 13.6 per 1,000, the rate for Glasgow being 14.1, and for Edinburgh 13.0.

#### INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended July 12. From this Report it appears that of a total of 54 cases notified, 20 were of scarlet fever, 18 of phthisis, 8 of diphtheria, 6 of erysipelas, and 2 of enteric fever. Among the 342 cases of infectious diseases in hospital at the close of the week were 134 cases of scarlet-fever, 107 of phthisis, 35 of diphtheria, 20 of whooping-cough, 16 of measles, 8 of enteric fever, 6 of erysipelas, 4 of chicken-pox, and one of puerperal fever.

## VITAL STATISTICS

*For four weeks ending Saturday, August 9, 1913.*

## IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended August 9, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 15.5 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, August 9, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000 :—

COUNTY BOROUGH, &c.	Week ending				Average Rate for 4 weeks
	July 19	July 26	Aug. 2	Aug. 9	
<b>27 Town Districts</b>	<b>15.2</b>	<b>16.4</b>	<b>16.6</b>	<b>15.5</b>	<b>15.9</b>
Dublin Reg. Area ...	15.9	15.1	17.3	17.9	16.5
Dublin City ...	16.1	16.2	17.8	19.6	17.4
Belfast ...	15.8	15.8	15.9	15.1	15.7
Cork ...	13.6	25.2	25.8	15.0	19.9
Londonderry ...	14.0	12.7	19.1	12.7	14.6
Limerick ...	14.9	19.0	8.1	9.5	12.9
Waterford ...	24.7	19.0	22.8	30.4	24.2

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, August 9, 1913, were equal to an annual rate

of 2.8 per 1,000. Among the 115 deaths from all causes in Belfast were 1 from scarlet fever and 28 from diarrhoeal diseases. Included in the 22 deaths from all causes for Cork are 4 from diarrhoeal diseases. The 16 deaths from all causes for Waterford included 6 from measles and 2 from diarrhoeal diseases, and one of the 3 deaths from all causes recorded for Galway was from whooping-cough.

### DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock and Kingstown. The population of this area is 403,000; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended August 9 amounted to 199—103 boys and 96 girls, and the deaths to 144—67 males and 77 females.

### DEATHS.

The deaths registered, omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 17.9 per 1,000 of the population. During the thirty-two weeks ended with Saturday, August 9, the death-rate averaged 20.6, and was 1.8 below the mean rate for the corresponding portions of the ten years, 1903–1912.

The total deaths registered, numbering 144, represent an annual rate of 18.6 per 1,000. The annual rate for the past thirty-two weeks was 22.0 per 1,000, and the average annual rate for the corresponding period of the past ten years was 23.5 per 1,000 of the mean population for all deaths registered.

The deaths included 1 from measles, 2 from diphtheria, and 18 from diarrhoea and enteritis of children under 2 years. In each of the 3 preceding weeks deaths from measles had been 0, 0, and 0; deaths from diphtheria had been 1, 1, and 0; and deaths from diarrhoea and enteritis of children under 2 years had been 11, 6, and 11. The deaths from diarrhoea include one of a child under 2 years admitted to hospital from outside the city.

Of 26 deaths from tuberculosis (all forms), 17 were attributed

to pulmonary tuberculosis, 4 to tubercular meningitis, one to abdominal tuberculosis, and 4 to disseminated tuberculosis. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 21, 26, and 30.

There were 11 deaths from cancer.

The deaths of 5 infants were caused by convulsions. There was one death of an infant from premature birth, and there were 3 deaths from congenital debility.

The deaths from pneumonia included 2 from bronchopneumonia, 4 from lobar pneumonia, and 2 from pneumonia (type not distinguished).

Twenty-two deaths were caused by organic diseases of the heart. There were 6 deaths from bronchitis.

The deaths from accidental causes or negligence, 6 in number, included the death of one child between the ages of 2 years and 5 years from burns. There was one death by suicide.

In two instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the death of an infant under one year of age.

Forty-one of the persons whose deaths were registered during the week were under 5 years of age (22 being infants under one year, of whom 3 were under one month old) and 29 were aged 65 years and upwards, including 21 persons aged 70 and upwards; among the latter were 11 aged 75 and upwards.

#### STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended August 9, 1913, and during each of the preceding three weeks. An asterisk (\*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) <sup>a</sup>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis ( <i>Phtisis</i> )	Acute Polio-myelitis	Total
City of Dublin	July 19	•	•	12	8	-	6	-	-	2	2	-	•	-	13	-	43
	July 26	•	•	14	4	-	12	-	-	1	1	-	•	-	22	-	54
	Aug. 2	•	•	6	1	-	4	-	-	3	3	-	•	-	20	-	44
	Aug. 9	•	•	10	-	-	3	-	1	5	5	-	•	-	11	-	33
Rathmines and Rathgar Urban District	July 19	•	•	-	-	-	1	-	-	1	-	-	•	•	•	•	3
	July 26	•	•	-	-	-	-	-	-	-	-	-	•	•	•	•	4
	Aug. 2	•	•	1	-	-	3	-	-	1	1	-	•	•	•	•	6
	Aug. 9	•	•	1	-	-	-	-	-	-	-	-	•	•	•	•	3
Pembroke Urban District	July 19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0
	July 26	-	-	-	-	-	1	-	-	-	-	-	4	7	*	•	8
	Aug. 2	-	-	1	-	-	1	-	-	-	1	-	3	*	-	•	6
	Aug. 9	-	-	-	-	-	1	-	-	1	-	-	-	-	-	•	3
Blackrock Urban District	July 19	•	•	-	-	-	1	-	-	-	-	-	•	-	•	•	3
	July 26	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	3
	Aug. 2	•	•	-	-	-	1	-	-	-	-	-	•	-	•	•	3
	Aug. 9	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	2
Kingstown Urban District	July 19	•	•	-	-	-	-	-	-	-	-	-	•	*	2	•	2
	July 26	•	•	1	-	-	-	-	-	-	-	-	•	*	-	•	1
	Aug. 2	*	•	1	-	-	-	-	-	-	-	-	•	*	-	•	1
	Aug. 9	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	1
City of Belfast	July 19	•	•	34	-	-	4	-	-	2	4	-	•	•	1	•	43
	July 26	•	•	29	-	-	3	-	-	3	5	-	•	•	13	•	54
	Aug. 2	•	•	34	-	-	10	-	-	-	4	-	•	•	6	•	54
	Aug. 9	•	•	37	-	-	5	1	-	2	3	-	•	•	2	•	50

<sup>a</sup> Continued Fever

<sup>b</sup> Not including one case of cerebro-spinal meningitis.

### CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended August 9, 1913, 6 cases of enteric fever were admitted to hospital, 3 were discharged, and 45 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 25, 34, and 42.

Ten cases of typhus remained under treatment in hospital at the close of the week. At the close of the 3 previous weeks the cases in hospital had been 8, 11, and 10 respectively.

Two cases of measles were admitted to hospital, one was

discharged, and 3 cases remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases were 5, 1, and 2 respectively.

Thirteen cases of scarlet fever were admitted to hospital, 14 were discharged, and 65 cases remained under treatment at the close of the week. This number is exclusive of 21 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 76, 76, and 66.

Four cases of diphtheria were admitted to hospital, 9 were discharged, and there was one death. The cases in hospital, which at the close of the 3 preceding weeks had numbered 35, 31, and 32 respectively, were 26 at the close of the week under review.

In addition to the above-named diseases, 8 cases of pneumonia were admitted to hospital, 4 were discharged, there were 2 deaths, and 19 cases remained under treatment at the end of the week.

#### ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, August 9, in 96 large English towns (including London, in which the rate was 11.4) was equal to an average annual death-rate of 12.0 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 14.1 per 1,000, the rate for Glasgow being 14.7, and that for Edinburgh, 12.7.

#### INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended August 9. From this Report it appears that of a total of 50 cases notified, 19 were of scarlet fever, 14 of phthisis, 11 of diphtheria, 4 of erysipelas, 1 of enteric fever, and 1 of puerperal fever. Among the 338 cases of infectious diseases in hospital at the close of the week were 137 cases of scarlet fever, 96 of phthisis, 38 of diphtheria, 34 of measles, 11 of whooping-cough, 7 of enteric fever, 5 of erysipelas, and 1 of chicken-pox.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of July, 1913.*

Mean Height of Barometer, - - -	30.120 inches.
Maximal Height of Barometer (2nd, at 9 a.m.),	30.423 „
Minimal Height of Barometer (6th, at 9 a.m.),	29.858 „
Mean Dry-bulb Temperature, - - -	58.5°.
Mean Wet-bulb Temperature, - - -	55.3°.
Mean Dew-point Temperature, - - -	52.4°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.397 inch.
Mean Humidity, - - - -	80.5 per cent.
Highest Temperature in Shade (on 2nd), -	72.0°.
Lowest Temperature in Shade (on 8th), -	44.1°.
Lowest Temperature on Grass (Radiation) (8th),	41.8°.
Mean Amount of Cloud, - - - -	62.4 per cent.
Rainfall (on 13 days), - - - -	.634 inch.
Greatest Daily Rainfall (on 18th), - - -	.160 „
General Directions of Wind, - - - -	N., N.E., N.W.

*Remarks.*

A generally fine, uneventful month, of clouded skies, hazy atmosphere, scanty rainfall, and remarkably persistent northerly winds. The mean temperature was 1.3° below the average, the mean diurnal range, which was small for July, being only 12.6°—that is, from 52.9° (the mean minimum) to 65.5° (the mean maximum). The former value was 1.3° below the average (54.2°), the latter was also an equal amount below the average (66.8°), and so it came to pass that the mean temperature of the month was 1.3° below the average. The foregoing remarks apply especially to Dublin. Speaking more generally, the weather in Ireland was much finer than that experienced in Great Britain, and particularly along the east coast of England. The last-named region was swept by a very destructive polar gale on the night of Tuesday, the 22nd, and the forenoon of Wednesday, the 23rd. At Aberdeen a squall from N.W. blew with a velocity of 47 miles an hour at 11 p.m. of the 22nd; at Spurn Head, the wind reached a like velocity at 6 a.m. of the 23rd. The storm was connected with the rapid movement of an atmospheric depression from



the south of Sweden to Holland ; at 7 a.m. of the 23rd the barometer fell to 29.62 inches at the Helder, whereas it stood as high as 30.31 inches at Malin Head, Donegal, and 30.37 inches at Stornoway (Hebrides). The prevailing northerly winds of the month were determined by a persistent high pressure system (anticyclone) over the Atlantic between Iceland and the British Isles, while atmospheric pressure was relatively low and conditions cyclonic in Scandinavia and over Central Europe.

A notable feature in the month also was a spell of tropical heat felt at Haparanda, on the Gulf of Bothnia (lat.  $65^{\circ} 58' N.$ ), from the 10th to the 18th, the thermometer rising to  $86^{\circ}$  at that Arctic Circle station on the 17th. Another noteworthy point was the showery, dull character of the middle fortnight of the month. This spell was followed by uninterrupted dry weather from the 22nd to the close.

In Dublin the arithmetical mean temperature ( $59.2^{\circ}$ ) was  $1.3^{\circ}$  below the average of the 35 years 1871–1905 ( $60.5^{\circ}$ ) ; the mean dry-bulb readings at 9 a.m. and 9 p.m. were  $58.5^{\circ}$ . In the forty-nine years ending with 1913, July was coldest in 1879 (“the cold year”) (M. T. =  $57.2^{\circ}$ ). It was warmest in 1905 (M. T. =  $63.8^{\circ}$ ) ; and in 1887 (M. T. =  $63.7^{\circ}$ ). In 1912 the M. T. was  $58.9^{\circ}$  ; in 1911 it was  $63.5^{\circ}$ .

The mean height of the barometer was 30.120 inches, or 0.205 inch above the corrected average value for July—namely, 29.915 inches. The mercury rose to 30.423 inches at 9 a.m. of the 2nd, and fell to 29.858 inches at 9 a.m. of the 6th. The observed range of atmospheric pressure was, therefore, 0.565 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was  $58.5^{\circ}$ , or  $1.9^{\circ}$  above the value for June, 1913. Using the formula *Mean Temp.* = *Min.* + (*Max.* — *Min.*)  $\times .465$ , the value was  $58.8^{\circ}$ , or  $1.3^{\circ}$  below the average mean temperature for July, calculated in the same way, in the thirty-five years, 1871–1905, inclusive ( $60.1^{\circ}$ ). The arithmetical mean of the maximal and minimal readings was  $59.2^{\circ}$ , compared with a thirty-five years’ average of  $60.5^{\circ}$ . On the 2nd the thermometer in the screen rose to  $72.0^{\circ}$ —wind, N. ; on the 8th the screened thermometer fell to  $44.1^{\circ}$ —wind, N., N.W. The minimum on the grass was  $41.8^{\circ}$ , also on the 8th.

The rainfall was .634 inch, distributed over 13 days. The average rainfall for July in the thirty-five years 1871–1905, inclusive, was 2.680 inches, and the average number of rain-days was 17. The rainfall, therefore, was less than one-fourth of the average, whereas the rain-days were only 4 below the average. In 1880 the rainfall in July was very large—6.087 inches on 24 days; in 1896, also, 5.474 inches fell on 18 days. On the other hand, in 1870, only .539 inch was measured on 8 days; in 1869 the fall was only .739 inch on 9 days; and in 1868 .741 inch fell on but five days. In 1911, 2.994 inches fell on 14 days, and in 1912, 3.055 inches on 17 days.

No high winds were noted in Dublin. Temperature reached or exceeded 70° in the screen on only 5 days, compared with 4 days in 1912, 21 days in 1911, 4 days in 1910, 3 days in 1909, 9 days in 1908 and 1907, 10 in 1906, 17 in 1905, and 10 in 1904. The thermometer never failed to reach 60°. In 1888 the maximum for July was only 68.7°.

A thunderstorm occurred on the afternoon of the 14th. Solar halos were seen on the 8th and 23rd. There was marked visibility on the morning of the 12th, following by a fog in the evening. From the 24th the atmosphere was very hazy.

The rainfall in Dublin during the seven months ending July 31st amounted to 15.731 inches on 117 days, compared with 16.811 inches on 127 days in 1912, 10.723 inches on 94 days in 1911, 21.032 inches on 127 days in 1910, 15.377 inches on 106 days in 1909, 13.809 inches on 120 days in 1908, 14.358 inches on 127 days in 1907, 13.664 inches on 122 days in 1906, 11.022 inches on 109 days in 1905, 13.905 inches on 117 days in 1904, 19.072 inches on 131 days in 1903, 15.507 inches on 115 days in 1902, 11.432 inches on 93 days in 1901, only 7.935 inches on 80 days in 1887, and a thirty-five years' (1871–1905) average of 14.710 inches on 113 days.

At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 59.0°. The arithmetical mean of the daily maximal and minimal temperatures was also 59.0°, the mean maximum being 65.9°, and the mean minimum 52.0°. The screened thermometers rose to 74.0° on the 23rd, and fell to 43.2° on the 8th. On the 8th the grass minimum was 38.0°. Rain fell on 10 days to the amount of .596 inch, the greatest fall in 24 hours

being .143 inch on the 18th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 150.2 hours, of which 13.5 hours occurred on the 1st. The mean daily duration was 4.9 hours. In July, 1904, there were 201 hours of bright sunshine ; in 1905, 162.2 hours ; in 1906, 184.8 hours ; in 1907, 178.1 hours ; in 1908, 174.3 hours ; in 1909, 139.8 hours ; in 1910, 205.0 hours ; in 1911, 221.8 hours ; and in 1912, 153.0 hours. The mean sub-soil temperatures at 9 a.m. were—at 1 ft., 60.6° ; at 4 ft., 56.8°.

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Captain Edward Taylor, D.L., recorded a rainfall of 1.16 inches on 10 days at Ardgillan, Balbriggan, Co. Dublin. This measurement was 1.55 inches below the average, and the rain-days were 5 in defect. The largest rainfall in 24 hours was .41 inch on the 21st. The July rainfall at Ardgillan in recent years has ranged from 7.03 inches in 1895 to 0.52 inch in 1898. Since January 1, 1913, 16.58 inches of rain have fallen at Ardgillan on 113 days, the precipitation being 1.33 inches over the average and the rain-days 6 in excess. The shade temperature in July ranged from 68.9° on the 1st and 23rd to 40.8° on the 8th.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was .92 inch on 11 days. The largest daily fall was .47 inch on the 14th. The mean shade temperature was 55.6°, the extremes being—highest, 69° on the 2nd ; lowest, 40° on the 7th.

At the Ordnance Survey Office, Phoenix Park, rain fell on 13 days to the amount of .800 inch, the greatest rainfall in the 24 hours being .200 inch on the 8th. The total duration of bright sunshine was 151.5 hours, the greatest daily sunshine being 15.0 hours on the 1st. The thermometer rose to 74.1° in the screen on the 1st, having fallen to 35.2° on the 8th, when the grass minimum was 28.0°.

Miss C. Violet Kirkpatrick reports a rainfall of .75 inch on 14 days at Cheeverstown Convalescent Home, Clondalkin, Co. Dublin. The heaviest fall in 24 hours was .23 inch on the 18th.

The rainfall recorded by Mr. George B. Edmondson at Manor Mill Lodge, Dundrum, was .68 inch on 12 days. Of this quantity, .14 inch fell on the 18th. The mean temperature was 59.6°, the thermometer rising to 77° on the 23rd, and falling to 45° on the 7th and 8th.

At Marino, Killiney, Co. Dublin, Mr. W. J. McCabe, observer for the Right Hon. Laurence Waldron, registered a rainfall of .99 inch on 13 days. The heaviest fall in 24 hours was .30 inch in the thunderstorm of the 14th. The average rainfall in July in the twenty-four years, 1885-1908, at Killiney (Cloneevin) was 2.408 inches on 15 days.

Dr. John H. M. Armstrong, M.B., reports that the rainfall at Coolagad, Greystones, Co. Wicklow, was .63 inch on 11 days, the maximal daily fall being .31 inch on the 14th. Since January 1, 1913, the rainfall at that station equals 23.27 inches on 120 days. A thunderstorm occurred from 5 35 to 6 45 p.m. of the 14th. At 6 30 a.m. of the 12th a panoramic view of the Welsh Hills was seen from Coolagad. Lunar halos appeared on the nights of the 20th and 21st.

Mrs. Sydney O'Sullivan returns the rainfall at Auburn, Greystones, as .76 inch on 13 days, the maximal measurement in 24 hours being .36 inch in a thunderstorm on the 14th.

At the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, Dr. Charles D. Hanan, M.D., Resident Medical Superintendent, reports a rainfall of only .33 inch on 8 days, the greatest daily rainfall being .09 inch on the 14th, and again on the 20th. The screened thermometers rose to 72° on the 23rd, and fell to 42° on the 8th. The mean maximum temperature was 63.9°, the mean minimum was 51.2° and the mean temperature 57.6°.

At the Rectory, Dunmanway, Co. Cork, the Rev. Arthur Wilson, M.A., recorded a rainfall of only .31 inch on 6 days. The only wet day was Tuesday, the 8th, when .23 inch fell. The rainfall was 3.04 inches less than the average for July in the past eight years. The weather was especially warm on the 1st and 2nd, and from the 11th to the end of the month. It was cool from the 3rd to the 10th. The rainfall at Dunmanway for the 7 completed months of 1913 amounts to 39.63 inches, compared with an average of 30.41 inches. It was, therefore, 9.22 inches in excess. From June 23rd to August 4th the rainfall at Dunmanway was only .33 inch.

## PERISCOPE.

### ERGOT AND ITS PREPARATIONS.

SINCE the last revision of the British Pharmacopœia in 1898 our knowledge of the chemistry and pharmacology of ergot has been advanced to so great an extent that it is now possible to devise processes for the official ergot preparations based upon the known properties of the active ingredients instead of adhering to the empirical methods which were necessarily adopted at the time of the previous revision.

In a paper by Carr and Dale, read before the British Pharmaceutical Conference on July 23rd it was shown that the properties of the most important active substance in ergot—namely, the alkaloid ergotoxine—are such that the usual methods employed for making extracts of ergot tend to exclude rather than to include it—an explanation is thus given of the uncertainty with which these preparations are regarded by some members of the profession. The authors further recommend processes by which pharmacopœial preparations of high activity may be made. The chief active principles of ergot are ergotoxine, *p*-hydroxyphenylethylamine (“tyramine”) and  $\beta$ -iminazolyethylamine (“ergamine”), all of which can now be obtained in pure crystalline condition. The alkaloid ergotoxine is the essential active principle of ergot, and is capable by itself of producing the true therapeutic effect of ergot. The amines, “tyramine” and “ergamine,” have also an important stimulant action upon the muscular wall of the human uterus, and their presence in ergot extracts is a useful adjuvant to the action of the ergotoxine.

To the latter, however, greatest importance is attached. Although the amines are readily extracted by water, and so are present in extracts and infusions, ergotoxine has properties exceptional in an alkaloid, whereby it is very apt to be left unextracted or to be precipitated from solutions. Its salts are very little soluble in water, though they may form colloidal solutions, from which they are thrown down by

strongly ionised acids or their salts. Ergotoxine is unstable in the presence of alkalis, while heating with strong alcohol converts it to inert ergotinine.

With a knowledge of these properties the reader will easily understand what the authors have actually found to be the case—namely, that as made under pharmacopœial directions both the *extractum ergotæ* (ergotin) and *extractum ergotæ liquidum* possess but an insignificant proportion of the activity of the ergot, for in the former instance the alkaloid extracted initially by alcohol is precipitated, firstly, by the removal of the alcohol during evaporation, and, secondly, by the addition of hydrochloric acid; such addition would precipitate ergotoxine from pure solutions, but in this instance the process is facilitated by the absorbent action of the resins also thrown down; while in the latter instance the liquid extract, which is made with water, contains only a very small proportion of the sparingly soluble ergotoxine, the amount so dissolved being slightly greater in the case of a particularly acid ergot or if fermentative changes set in during the process. These extracts are rich in amines, and to such they chiefly owe what activity they possess, which, however, does not in any way represent the true clinical value of the drug.

On similar grounds the *infusum ergotæ* is criticised, while the instability of the ammoniated tincture is accounted for by the action of the added alkali. The authors propose a revision of that section of the British Pharmacopœia relating to ergot, and indicate the following changes:—1. The present *extractum ergotæ* to be abandoned, and, if necessary, a soft total extract made with 60 per cent. alcohol acidified with citric acid, substituted for it. 2. The fluid extract of the United States Pharmacopœia, made with 49 per cent. alcohol, containing 2 per cent. of acetic acid, should take the place of *extractum ergotæ liquidum*. 3. The *injectio ergotæ* to be abandoned and suitable salts of ergotoxine, either alone or combined with the active amines, ergamine and tyramine, to be employed in place of it. 4. The adoption of a liquid extract such as that described would render the tincture unnecessary, but such, if retained, should be made by percolation with 60 per cent. alcohol without ammonia.

Another point of interest is that it has been shown by

testing ergots of other grasses, such as that of wheat and of a wild grass from New Zealand, called *Festuca arundinacea*, that they possess even more activity than ergot of rye, ergot of festuca being found approximately three times as active as good rye, and ergot of wheat slightly more active than the latter. The authors suggest that if an acceptable method of testing ergot can be found such ergots should receive official sanction.

#### PHYSIOLOGICAL CRITERIA FOR MEDICINAL SUBSTANCES.

THE testing of medicines constitutes one of the most important and practical branches of modern scientific research work, and deserves even more attention than has hitherto been accorded to it. It is a task which has been shown by experience to pass outside the self-imposed limits of ordinary analytical chemistry, and it is, therefore, especially interesting to note the contributions which have been made, during recent years to this branch of study, by specialists in physiology and bacteriology. The pamphlet recently issued by the Wellcome Physiological Research Laboratories under the above title admirably epitomises current practice, and gives some extremely interesting reports, illustrating the progress made towards the ideal of precise physiological standardisation of potent medicines. In choosing a physiological test, the method pursued at the Laboratories has been to select one definitely related to the therapeutic effect of the drug, or, when the active principle is known, to use that one of its actions which produces an easily measurable effect. A rise of blood-pressure, or the minimal lethal dose for animals of uniform weight, are examples of data susceptible of accurate measurement, and, therefore, suitable for establishing an exact system of dosage. The application of the lethal dose method to the digitalis series is described in some detail.

The testing of tincture of digitalis is carried out by means of the common English frog (*Rana temporaria*), the heart of a medium-sized specimen coming to a complete systolic standstill within three hours, when the frog is injected with a dose of 0.0075 c.c. of the standard tincture per gramme of body weight. Theoretically equivalent specimens of tincture and other preparations of digitalis

as ordinarily purchased on the market, have been found to vary in activity in the proportion of 1 to 4, when tested by this method, and the extreme importance of maintaining a physiological standard in regard to so potent a drug is, therefore, obvious. The frogs used should be freshly caught; healthy males of about 25 grammes, during the months of July and September, give the most uniform results. The curious fact is noted that the toad—which Shakespeare described as “ugly and venomous”—possesses a secretion of the skin, digitalis-like in its action. Being remarkably resistant to the drugs of this series, toads are unsuitable for testing the activity of digitalis. Some interesting tables showing the results of doses of the tincture of digitalis, squill, and strophanthus upon frogs of known weight, are given, and the method of determining an average minimal lethal dose is indicated.

*Cannabis indica* being a drug of very variable activity, of which the active principle, although known, does not lend itself to chemical methods of standardisation, has furnished another field for physiological research.

The various methods which have been suggested for standardising preparations of the supra-renal gland are next discussed. Adrenine is a notoriously unstable substance, and neither the optical rotation test nor the chemical estimation methods hitherto devised have proved suitable for routine standardising purposes. It has remained for the physiologist to devise a test, and this has been done by measuring the rise of arterial blood-pressure produced upon an animal organism as the result of an intravenous injection. Pithed cats under artificial respiration are utilised for this purpose, and the method, as stated by an observer, is found to be capable of the mechanical accuracy of a chemical balance. Some instructive diagrams illustrating this part of the subject are given. A noteworthy example of the fruitful alliance between chemical and physiological methods in the examination of medicinal substances is to be seen in the production of “Epinine,” which was the outcome of independent investigations at the Wellcome Chemical Research Laboratories. Owing to its synthetic origin and the fact that its salts are readily crystallisable, this substance can be prepared in a state of uniform purity which precludes the necessity for the constant repetition of physio-



logical tests. In its therapeutic effects it closely resembles the supra-renal active principles.

Pituitary (infundibular) extract, which has attained in recent years a wide therapeutic importance, is a preparation, the chemistry of which is by no means in so advanced a state, and here the need for exact physiological criteria is specially apparent. Such data are obtained at the Wellcome Physiological Research Laboratories by measuring the action of a batch of pituitary extract upon the isolated uterus of a virgin guinea-pig suspended in warm oxygenated Ringer's solution—a method which excludes the errors due to tolerance of successive doses in animals.

The remainder of the book is devoted to the elucidation of the complex, but deeply interesting, problems connected with ergot and its standardisation.

“Physiological Criteria” should be read by all who desire to obtain an insight into modern methods of the physiological control of drugs, and it abundantly demonstrates not only the importance of this work but also the thorough and scientific manner in which it is being carried out at the Wellcome Physiological Research Laboratories.

#### EXHIBIT AT THE INTERNATIONAL CONGRESS OF MEDICINE.

THE firm of Messrs. Burroughs, \*Wellcome & Co., took the whole of the large vestibule of the University of London Imperial Institute, South Kensington, for its series of exhibits, of which there were five in all. A comprehensive picture of the firm's varied activities is thus presented, the objects being clasified as follows:—(1) Pharmaceutical preparations and fine chemicals; (2) Medical equipments and first-aid; (3) Surgical appliances and instruments; (4) Physiological section; (5) *Materia Medica* farm exhibit.

On the left, the first of these sections contained the chemical and pharmaceutical exhibit comprising many specimens of the “Wellcome” chemicals and of “Tabloid” products. Some of these are specially interesting as being the outcome of the chemical research work undertaken by the firm. Of these, “Nizin,” a zinc salt of sulphanilic acid, and “Soamin,” one of the arylarsomates, are examples. The extreme purity attained in the chemicals issued under the “Wellcome” brand has rendered them specially serviceable for scientific,

therapeutic, and diagnostic use; thus "Wellcome" bismuth carbonate, owing to its freedom from lead, is used in examination by *x*-rays of the conditions of the stomach and œsophagus and for other purposes where large doses are necessary.

On the right, another section was devoted to "Tabloid" medical equipments and cases. The compact and serviceable equipments for physicians and surgeons, here displayed, are adapted for the needs of everyday practice at home as well as for the exigencies of travel and exploration in distant lands. In addition there are equipments for special purposes, such as the "Soloid" water analysis case, the bacteriological case, and cases for blood-testing, urine-testing, &c. In this exhibit there were also shown some very interesting *x*-ray photographs, the negatives of which were developed with "Rytol." That of a hand showing injury to the lower epithesis of the ulna is very striking.

In the surgical appliances group, besides many excellent hypodermic and ophthalmic syringes and cases, including the new Burroughs, Wellcome & Co. tuberculin syringe, there are the pleated and compressed dressings originated by this firm and well adapted for every surgical requirement. A noteworthy example is the "Tabloid" adjustable head dressing. The easy and rapid method of fixing this bandage, which is made in two sizes, was shown on a model head. With the "Tabloid" dressings were shown the "Tabloid" antiseptic products with which accurate solutions of definite strength can be readily prepared.

In the pathological section, occupying a space in the further corner on the left-hand side of the hall, many interesting specimens were shown of products and processes with physiological standardisation. Kymographic tracings, illustrating the action of "Epinine," "Ernutine," and "Infundin" on living organisms, were also exhibited. Two such tracings show very clearly the difference in effect between good and bad specimens of pituitary extract.

Spatial formula models constructed of variously coloured wooden balls connected by wires serve to demonstrate, in a very instructive fashion, the chemical composition of such organic substances as "Tyramine," "Epinine," "Ergamine," &c. The "Wellcome" serums, vaccines, and

tuberculins shown in this part of the exhibit included the concentrated diphtheria antitoxin "Wellcome," and the tuberculin (W.) Vases demonstrating the great difference in bulk of equivalent doses of the Diphtheria Antitoxin Serum and the "Wellcome" Concentrated Diphtheria Antitoxin were shown. It is to be noted that all the tuberculins issued by Burroughs Wellcome & Co. are made in England, being prepared at the Wellcome Physiological Research Laboratories at Herne Hill.

The remaining portion of the exhibit was rendered extremely attractive by the fine collection of medicinal plants and herbs. They are specimens from the "Wellcome" Materia Medica Farm at Dartford, where a wide range of medicinal herbs, both for experimental and manufacturing purposes, is now grown. The "Wellcome" Galenical Preparations, such as the granular green extract of *Belladonna* and the standardised concentrated tincture of *digitalis*, were on view on this stand, side by side with specimens of the plants from which they are prepared.

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## NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

### *Tablets Helmitol Co. (Bayer).*

TABLETS "HELMITOL" Co. (BAYER) contain equal parts ( $\frac{1}{2}$  gramme or  $7\frac{1}{2}$  grains) of helmitol and acid sodium phosphate, and have been introduced at the express request of a number of medical men in whose experience the addition of the acid phosphate is advisable in certain conditions associated with pronounced alkalinity of the urine. Especial importance has been attached to the use of the compound in *Bacillus coli* infections. Helmitol is a salt built up of hexamethylenetetramine, formaldehyde, and citric acid, while acid sodium phosphate, as is generally known, is the natural acidifying agent of the urine. In a discussion at a recent meeting of the Therapeutic Section of the Royal Society of Medicine, it was pointed out that, especially in *Bacillus coli* cases and in gonorrhœa, the value of helmitol is materially enhanced by the addition to each dose of a suitable proportion of acid sodium phosphate. This pronouncement, following previous suggestions of a similar nature, has led to the introduction of these tablets. Further

support is found in an article entitled: "Modern Urinary Surgery," in *The Practitioner*, April, 1913, in which the addition of the phosphate is said to accentuate the bactericidal effect. Of helmitol itself the following definite statements may be made in comparison with hexamethylenetetramine, from which it differs considerably in composition:—1. It liberates more formaldehyde, bulk for bulk, and hence is a more powerful antiseptic. 2. Less of the drug is eliminated unchanged, and its action is accordingly more intensive. 3. It is much more palatable, and much less likely to irritate the stomach or interfere with digestion. It should be added that helmitol itself, since it is active either in an acid or an alkaline medium, may be employed in conditions in which an alkaline urine is desired. Accordingly it is therapeutically compatible with remote alkalies, such as potassium citrate or acetate. A formula of this type was, in fact, recently published (*The Lancet*, 18th May, 1912), containing in each dose: helmitol gr. 5 and potassium citrate gr. 20. The dose is 2 to 3 tablets dissolved in plenty of cold water three times a day, and the tablets are dispensed in original tubes of 20.

*Tablets of Synthetic Hydrastinine Hydrochloride (Bayer).*

THIS preparation is of great interest, as the synthesis of the complicated alkaloid is looked upon as a chemical achievement. The synthetic alkaloid has been found to be in every way identical with that obtained by oxidation from the hydrastine of the rhizome. The tablets have the advantage over the ordinary galenical preparations of hydrastis of definite composition. It is also now recognised that hydrastinine has advantages over hydrastine in that its styptic action is more powerful and lasting, it is less depressing to the heart, and it does not cause tetanic spasms. The tablets, which are silver-coated and packed in tubes of 15, are of special service in checking hæmorrhages and discharges. The dose is one tablet swallowed with a draught of water three or four times a day.

# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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OCTOBER 1, 1913.

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### PART I.

#### ORIGINAL COMMUNICATIONS.

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ART. XI.—*Some Scattered Remarks on Stomach Cases.*<sup>a</sup>

By T. GILLMAN MOORHEAD, M.D., F.R.C.P.I., Physician  
to the Royal City of Dublin Hospital.

IN selecting a subject for a communication to the Club this year I thought it likely that a short paper dealing with some of the commonplaces of medical work in connection with the diagnosis and treatment of diseases of the alimentary tract would be more likely to give rise to discussion than a more elaborate paper on a single case or on any more defined subject. For the very commonplace nature of the various points touched on I will make no apology, as the very object of the communication is to deal with ordinary every day matters.

The first point I wish to make a few remarks about concerns the presence or absence of hydrochloric acid in the gastric contents, and I wish, in the first place, to emphasise a fact which is no doubt widely known, but which is often I think forgotten—namely, that the actual findings in material that has been vomited is in this respect

<sup>a</sup> A Paper read before the Dublin Biological Club, 1913.

of no diagnostic value. It has frequently occurred to me to be told that vomited material contained no HCl and to find that its absence has given rise to alarming suspicions, but my own experience is that HCl is almost invariably absent in the vomit in cases of acute dyspepsia and also in the vomited material in many chronic disorders of the stomach, although subsequently it is found to be present in a test meal washed out in the usual way. Frequently enough vomited material is intensely acid to litmus paper, but as a rule the acidity will be found to be due to the presence of organic acids which may and often do occur under such circumstances in large quantity. The explanation is, of course, obvious. In diseases—especially acute ones—that give rise to vomiting the gastric secretion is presumably inhibited, abnormal fermentation takes place and hence the absence of HCl and the presence of organic acids.

The second point to which I wish to allude is the impossibility of relying on a single negative result in the estimation of HCl, or even on a series of negative results unless the evacuation of the stomach is carried out at varying periods after the administration of a test meal. When an examination for HCl in a case of gastric cancer is only to be looked on as an artistic finish to a case already complete as far as diagnosis is concerned, a single examination will no doubt suffice, and may afford information which will round off a clinical lecture; but in the doubtful case, when early diagnosis is all important, the care I indicate is to my mind absolutely essential. The case that originally impressed this fact most forcibly on my mind some years ago was that of a lady, aged fifty, who came to me suffering from pain in the stomach, flatulence, vomiting and loss of weight. She looked ill, was somewhat anæmic, and on examination I found the stomach extending well below the umbilicus, but was unable to detect any tumour. A test meal of the usual Ewald type removed an hour after taking showed no HCl, and the same meal repeated on three subsequent occasions also gave a negative result. I was still, however,

not satisfied, and in consequence gave another test meal, but by accident was late in arriving to wash it out, and, in consequence, the meal was not removed till over two hours after administration. To my surprise on this occasion I found HCl present in considerable quantity, and on repeating the observation subsequently, again found HCl present. Possibly with my present experience I would immediately now recognise such a case as one of pure gastric neurosis, for the almost complete recovery of the patient proved it to be this in the case in question, but I am still of opinion that it is this type of case that is likely to give rise to difficulty and anxiety if one desires to recognise carcinoma at the earliest possible moment. I have since then seen several similar cases, and have satisfied myself of the importance of examining gastric contents at a variable time after administration of the meal.

The last point I wish to mention in reference to HCl is the fact that its presence in diminished or increased quantity is no definite guide to the administration of acids or alkalis respectively. This is no doubt a truism, and will especially be accepted by the older therapeutists, but in scientific days it is a truism that is likely to be neglected. I more especially call attention to the fact owing to the occasional appearance of papers in which the various gastric disorders are classified in accordance with the analysis of test meals and the appropriate remedy for each disorder is indicated in much the same way as one would work if the body were a test tube. No doubt in some cases treatment along definite chemical lines is useful, and in hypochlorhydria tonics and acids are most frequently beneficial, but it must not be forgotten that it is in these cases that alkalis administered some time after a meal are most symptomatically useful by neutralising the organic acids to which abnormal fermentation, permitted perhaps by the hypochlorhydria, has given rise. In hyperacidity due to excessive HCl I personally find that the removal of the cause, such as excessive smoking, excessive drinking, or excessive nerve

strain in any form is much more useful than alkaline treatment. Some cases even do better on acids than alkalis, but to pursue this subject further would bring me into details which are hard to express in general terms.

The next point I wish to allude to is the salol test for gastric motility. This test, as is well known, depends on the fact that salol passes through the stomach unchanged, and only splits up on reaching the intestine. If the time that intervenes between the formation of salicylic acid in the intestine and its elimination in the urine be regarded as a constant, one will obviously be able to form some idea of the relative motility of the stomach in different cases by the varying times of appearance of the urinary reaction. In normal cases the average time of appearance of the reaction is from 60 to 75 minutes. I have not kept an accurate record of my results with this test, but have used it fairly regularly for several years, and of late have been able to contrast the results given with radiographic examinations after the administration of a bismuth meal. The conclusion I have come to is that the test is on the whole reliable. In cases of pyloric obstruction there is almost invariably delay, and in a recent case I found that the reaction did not appear until over three hours after the salol had been taken. In cases of temporary severe atonic dilatation I have several times found delay of over two hours. The test is, of course, open to many objections and the information it gives can be obtained in other ways, but as a means of giving precision to one's ideas concerning the musculature of the stomach it is, I think, worth employing regularly, more especially as it involves very little trouble for either doctor or patient.

I next wish to make a few remarks on the results of bismuth meal examinations from the standpoint of a physician. No one will deny the extreme value of such examinations, and in many cases they afford valuable information that cannot otherwise be easily obtained, but as a result of increasing experience I am beginning to feel that their aid may frequently be dispensed with, and



that in any case they should only be regarded as one of many factors in arriving at a diagnosis. In saying this I am probably merely saying what every body admits, but the accurate visualisation that they permit of the stomach and intestines at work causes one at first, I think, to regard such examinations as possessing a more positive value in contrast with other physical signs and with symptoms than they actually possess. The first case which I encountered which threw doubt on the method was that of a man, aged thirty-five, who came to me some years ago complaining of a foul stomach. His symptoms were those of dilatation of the stomach, and physical examination, including distension of the stomach with gas, showed the existence of considerable gastrectasis. There was no history of gastric pain, and HCl was abundant, but I was inclined to regard the case as one of obstructive gastrectasis because the fluid removed from the stomach several hours after a meal was extremely fetid and sour, and I may here say that I always regard butyric acid fermentation and the accompanying unpleasant smell as almost diagnostic of pyloric obstruction as distinct from simple muscular atony in cases of dilatation. A bismuth meal, however, seemed to negative the existence of obstruction. It showed quite plainly that the stomach was enlarged, but also showed the passage of the bismuth into the duodenum, and in four hours the stomach was completely empty. On the strength of this I told the patient that for the present it was better to try lavage, massage, careful dieting, &c., and to see what improvement would be obtained by these measures. No great benefit resulted and two months later an operation showed the existence of an old pyloric ulcer with considerable narrowing, and a gastro-enterostomy brought about a complete cure. As compared with the bismuth method I am inclined to think that the old-fashioned plan of giving half a dozen raisins at bed time, and ascertaining if they are present on washing out the stomach in the morning is a better test for obstructive as distinct from atonic

gastrectasis. The most atonic stomach generally manages to empty itself during eight or nine hours recumbency, more especially of solid contents, while solid indigestible substances are retained in cases of pyloric stenosis. As regards the condition of atony and ptosis, I am inclined to think that the bismuth method conveys to one's mind an exaggerated idea of the importance of the change in shape, size and position of the stomach. A couple of years ago I saw a girl, twenty-eight years of age, emaciated to an extreme extent, constantly vomiting and reduced to the familiar condition of fearing to take almost any article of food on account of the pain and discomfort it caused her. I rapidly made up my mind that a Weir-Mitchell course would cure her, but in deference to the wishes of her father I had a preliminary complete examination of the alimentary tract made. The *x-ray* showed a dilated sunken stomach with the greater curvature well down in the true pelvis, and in size apparently three to four times the normal. The condition was so extreme in fact that it was with considerable doubt in my mind that I insisted on the rest course being carried out, as I confess I found it hard to believe as I looked at the radiograph that the stomach was not really seriously at fault and in fact the primary cause of the disease, and as far as one could ascertain the stomach had already had more rest than food during the previous year. The result, however, was most satisfactory. As far as I can ascertain the patient's stomach is little altered, but as a result of the rest cure she gained two stone in weight, and has since remained a normal healthy individual. One must also remember that conditions shown by the bismuth method may be quite temporary. Passing atony of the stomach accompanying overwork or ill-health from any cause is apt to assume in one's mind a more permanent form when it has been definitely shown that there is delay in emptying a somewhat dilated stomach, but I have met now with many cases of the sort in which complete recovery followed a few weeks' rest and change.

A further fallacy and one I think of considerable interest is illustrated by the following case :—A gentleman, aged sixty-nine, consulted me last October on account of troublesome flatulence, which had first begun to bother him about a year previously. His appetite, he stated, was quite good ; he never vomited, and his bowels were regular ; but he had lost weight, and did not feel as strong as formerly. His chief complaint, however, was of the eructation of gas, which both he and his wife described as extremely offensive. On examination in my study I was unable to detect anything abnormal, but a few days later, on washing out a test meal, I myself experienced the offensive odour of which he complained. The smell of the eructated gas resembled the smell with which anyone who has ever attended a case of gangrene of the lung will be grievously familiar. As soon as I detected it I made up my mind that the patient was suffering from a malignant ulcer of the stomach, possibly complicated by a small subphrenic extension ; of this, however, there were no physical signs. The test meal proved free of HCl on this and on a subsequent occasion, and, further, a small fragment of tissue was found in the end of the stomach tube—the only occasion, by the way, that I have ever got assistance in this way—which proved to be necrotic granulation tissue. The patient appeared to me to be one in whom an exploratory operation might justifiably be performed on the chance of removing the carcinoma, but before operation, at the patient's own request, a complete bismuth meal examination was carried out. This apparently revealed a quite unusual state of affairs. The bismuth appeared to pass very rapidly into a pouch beyond the stomach, and the appearance as viewed on the screen and also on the *x*-ray plates strongly suggested either a most unusual hour-glass stomach or else that the bismuth had passed into a large sac external to the stomach. Subsequent events, however, proved this quite wrong. At operation a malignant growth of the cardiac end of the stomach was found ; it was adherent to the diaphragm,

and quite irremovable. The patient made a rapid recovery from the operation, and was satisfied to think that everything possible had been done. The explanation of the curious *x-ray* phenomenon seems to have been that an irritable and unusually active stomach rapidly expelled its contents, and that two coils of small intestine simultaneously filled with bismuth, parallel to one another, and overlapping, produced the appearance of a secondary sac. The experience is, I think, one worth relating.

In contrast to the above cases in which, as I have stated, I have been more impressed with the difficulties of interpretation of *x-ray* results than with the aid thus afforded, and I now exhibit an *x-ray* photograph showing a typical hour-glass stomach in which a complete cure was achieved by operation. The patient, a lady, aged thirty-five, consulted me three years ago with symptoms pointing to chronic ulcer of the stomach, located most probably in the middle of the lesser curvature. I advised—as I always do in such cases—a systematic course of medical treatment. This was carried out with apparently much benefit. The patient left hospital after six weeks, able to eat ordinary food without pain, was quite free of any tendency to vomit, and had gained 7lbs. in weight. I lost sight of her completely until last July, when she again came to see me, and told me that during the three months previously she had again begun to suffer from pain and fulness after meals and a tendency to vomit. Examination revealed a tender spot about midway between the umbilicus and the sternum, and a distinct splash was obtained. I came to the conclusion that the ulcer was again active, and advised an operation, but before having this carried out got an *x-ray* taken. This at once showed the existence of a typical hour-glass stomach, and fragments of bismuth could be seen adherent to the surface of an irregular mass in the middle of the lesser curvature. The operation of gastro-gastrostomy was performed by Dr. Wheeler with splendid results. I heard from the patient at Christmas to say that she had gained 21lbs.

in weight, and no longer had any stomach troubles whatsoever. The actual operative procedure carried out is one which I understand does not commend itself to every surgeon, and it is therefore I think worth reporting the extremely good results obtained in this case.

While speaking of a case of chronic gastric ulcer I would here like to emphasise my belief that a large number of such cases are quite curable permanently by medical means—*i.e.*, by careful rest and dieting. I need not quote cases to prove this contention and indeed I only mention it because so recently it was thought that medical treatment was useless for chronic duodenal and gastric ulcers, and that the sooner they were all operated on the better. Now, largely, I think, as a result of the stimulus administered by surgeons, medical treatment has become more systematised and more successful. If one fails to cure a case after adequate medical treatment, surgical advice should invariably be invited and acted on.

The last point I wish to allude to is the subject of peritoneal adhesions, more particularly in reference to a single case the details of which I will briefly recount. It is stated that in adults peritoneal adhesions somewhere or other are invariably found at autopsy, just as pleural adhesions more or less are invariably found. Into the general subject of their significance I need not go, though I am under the impression that they are often made a scapegoat undeservedly for much abdominal discomfort. In the following case a single adhesion was possibly the reflex cause of serious vomiting :—The patient, a girl, aged thirty, came under my care complaining that for some years she had suffered from indigestion, which had become worse of late, and that during the last three months she had vomited after nearly every meal to such an extent as to make life intolerable and to reduce her weight considerably. A complete examination, including the administration of a test meal, and a bismuth examination, revealed the existence of marked general enteroptosis, but showed that the stomach was capable of emptying itself in

less than the normal time. Careful dieting and sedatives of different sorts, including full doses of bromides, made no difference in the vomiting, and as the patient was obviously very neurotic I removed her to a private home in order to get her away from over-sympathetic surroundings and to keep her in the recumbent position. In the home, vomiting went on as before ; even peptonised milk, which proved quite palatable, was rejected, and the patient continued rapidly to lose flesh, and to suffer from want of fluid. There was a history of jaundice a year previously, and, searching about for a possible reflex cause of the trouble, I came to the conclusion that the most likely was a gall-stone in the gall-bladder, though there was nothing else but the vomiting to confirm this view. After nearly a month's treatment I asked a surgeon to see the case, but he was so much impressed by the neurotic disposition of the patient, whom he had previously known, that he was indisposed to operate, and in consequence we delayed for another ten days. During that interval the vomiting continued as bad as ever, and as the patient was herself anxious that something should be done before she got too weak, I then rather pressed the operation. At this time the general superficial tissues were so inelastic from want of fluid that on pinching up the skin the fingers left a definite mark. On opening the abdomen marked ptosis was revealed, but at first, to my disappointment, nothing else. The gall-bladder, stomach, appendix, and colon were carefully examined, and, with the exception of those filamentous adhesions so commonly seen in cases of ptosis, nothing could be made out. Just, however, as the abdomen was being closed, a firm cord-like adhesion was seen extending from the great omentum to the umbilicus. This adhesion, which could readily be overlooked, as on opening the abdomen by a median incision it is turned to one side with the abdominal wall, was so situated as to press directly on the greater curvature and anterior surface of the low-lying stomach. When I saw it I remembered a similar case, which had come under my notice some years

back, in which constant dragging pain in the abdomen had been at once relieved (after two previously unsuccessful exploratory operations) by removing just such an adhesion ; I accordingly asked the surgeon to separate and remove it, and this was done. The patient's convalescence was, unfortunately, interrupted by a severe attack of pneumonia, which set in on the tenth day after operation ; but prior to this she had been able to take almost normal food for three or four days, and after the subsidence of the pneumonia again returned to normal food. Still later, I regret to say, some of her symptoms returned, and even now, some months after the operation, she suffers from some regurgitation of the stomach contents at night, but she is able to eat fairly well and no longer suffers from nausea during the day.

Whether the adhesion was the partial cause of her illness and aggravated the symptoms resulting from the enteroptosis or not is a matter upon which it is hard to be dogmatic, but to my mind an adhesion of this sort should be quite capable of producing reflex emesis, and as I understand that it is far from uncommon I think it is worth looking for as a routine in cases of exploratory laparotomy performed for unexplained and persistent vomiting. If not specially looked for it may be easily missed.

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ART. XII.—*Case of Puncture Wound over the Right Clavicle, causing Loss of Pulsation in the Arteries of the Arm.* By HENRY STOKES, M.D. Univ. Dubl. ; F.R.C.S.I. ; Surgeon to the Meath Hospital and County Dublin Infirmary.

CASE.—Thomas K., a labourer, aged thirty-three years, was admitted to the Meath Hospital on 2nd August, 1913, suffering from a wound above the centre of the right clavicle. He stated that while working in a hay field he had tripped and fallen on to a prong of a tumbling rake (a machine used for collecting hay) on which he was suspended, being unable

## 252 *Case of Puncture Wound over the Right Clavicle.*

to reach any support with his hands. He further said that he had to be lifted off by his companions, and that on account of great weakness they brought him to the hospital.

On examination the patient was found to be a strong, heavy man of about 14 stone weight, short necked and broad chested. There was a punctured wound three-quarters of an inch long over the right clavicle discharging a small quantity of blood. There had been no coughing of blood. The house surgeon painted the wound and the neck with tincture of iodine and applied a dressing.

On the next morning emphysema had developed in the upper half of the right side of the chest, and no pulsations could be felt in the radial, ulnar, brachial and axillary arteries of that side although there was a very distinct pulsation in the carotids and in all the other arteries. The patient looked very ill, and had considerable pain in the right side of his chest.

During the next ten days the temperature kept continually above normal, varying from  $99^{\circ}$  to  $102^{\circ}$ , his pulse running from 115 to 140, and the respirations about 35 a minute.

On the 8th of August a careful examination showed that there had been no nervous lesion, and that there was a large area of dullness underlying the emphysema and extending down to the base of the right lung. On the 16th of August Dr. Boxwell, who was asked to see the case, suspected an empyema, but on four occasions the aspirating hypodermic needle drew off pure blood. The patient's temperature kept varying from  $97^{\circ}$  to  $102^{\circ}$  for three weeks, doubtless due to the absorption of the hæmorrhage, the dulness slowly disappeared, and personally he felt much better. On the 7th of September he was allowed up, and he was discharged convalescent on the 12th of September. An examination on that date failed to reveal any trace of pulsation in the arteries of his right arm. At no time was there any swelling, pulsation or murmur in the neighbourhood of the puncture wound.

The above case opens up many difficult questions. First, was the subclavian artery perforated? This does not seem to be probable, as it is very unlikely that the patient would not have rapidly bled to death. Secondly, if any branch of the subclavian had been perforated, would the pressure of the resulting hæmorrhage have caused occlu-



sion of the subclavian. This also seems unlikely, as there was no tumour in the neck, no venous congestion in the arm; the only large hæmorrhage was into the pleural cavity. Thirdly, was the absence of pulsation in the arteries of the right arm of old standing? It is, in the absence of evidence, impossible to answer this question, but as the arm was well developed, strong and muscular, it is not probable, and no congenital malformation could account for pulsation not being felt somewhere in the arm.

The patient is being kept under observation, the prognosis as regards the development of an aneurysm being regarded as very grave.

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ART. XIII.—*On the Every-day Application of Certain Preparations of Spleen, Pancreas, &c.* By G. W. CARNRICK, Hornsey, London, N.

THE results of almost innumerable experiments prove that not a few diseases are due to the partial or complete loss of certain internal secretions or hormones. Physiologists have devoted years of experiment to show the relations of the internal secretions, and thus have paved the way for their successful application in the treatment of disease.

Twenty years of experience with thyroid extract has placed it among our few specific remedies, and it is a panacea for certain conditions due to a lack of this particular secretion. The study of the suprarenal gland and the physiologic influence of its extracts has also assumed a definiteness which cannot be gainsaid; and we are learning successfully to procure and use various other hormones in conditions presumed to be due, in part at least, to a corresponding lack.

The writer has done much experimental work in applying this idea to the treatment of diabetes, and the suggestions initiated ten or more years ago are now rapidly becoming "rational." Opinions change; and numerous personal communications, as well as published articles, have emphasised my conclusions that a certain secretion

of the pancreas is an effective remedy in the treatment of many cases of diabetes. This, however, is not an extract of the pancreas, nor is it that remarkable duodenal extract, secretin, which has such a decided influence upon the functional capacity of the pancreas. While these preparations are undoubtedly useful, they do not supply the specific factor which appears to be missing in so many cases of diabetes. Here one needs to antagonise the results of the disturbed hormone-balance, and thus give to the body the much-needed sugar which is in such profusion in the blood, but which it can only utilise with the help of the pancreatic activator. The clinical experiences of hundreds of physicians in all parts of the world have demonstrated beyond all question that an extract of the tail of the pancreas, containing the islets of Langerhans, supplies to many diabetics a power to utilise carbohydrates which is sometimes remarkable. Unfortunately, however, diabetes is not always due solely to Langerhansian disorder, and the administration of this hormone is not as specific as is thyroid extract in myxœdema; but to secure results in 55 per cent. or 60 per cent. of cases is most encouraging, and to be able to afford relief—temporary in certain cases and permanent in others—is well worth while, and justifies a thorough clinical trial on the part of the physician.

Since Starling and his associates first discovered secretin at University College, London, and Pawlow named enterokinase, and defined its remarkable properties as a result of his work in St. Petersburg, much time has been devoted to attempts to procure in sufficient quantities, and suitable stable form, preparations of pyloric, duodenal, and pancreatic secretins which could be used to satisfactorily stimulate the digestive glands. This has been done, and for several years this natural stimulator has been used with good results. The mere fact that one can supply to the body a pure, physiologic stimulus to the digestive glands is an immense step in the therapeutics of indigestion; and the use of secretin in the treatment of

digestive insufficiency is beyond reasonable comparison with the digestants and stimulants still so generally in use. The results obtained are not far short of astounding, and are possible only because we are able to procure from animals those substances which would have activated their digestive organs if those animals had been permitted to live. The secretins are not quite "specifics," for frequently indigestion involves numerous other factors besides the secretory capacity of the glands; but they excel any other remedies previously recommended for the same purpose.

Extensive study of the physiology of the spleen has shown that it plays a far wider rôle than its well known blood-forming function. The spleen undoubtedly contains a hormone which, by activating trypsinogen and in several other ways, increases the nutrition and resistance of the body. A combination of extract of spleen with pancreatic enzymes and calcium lactate is affording encouraging results in the treatment of malnutrition, especially in the tuberculous, where this factor is by all odds the most important; and its influence upon the weight and general health is usually quickly seen.

One other point, in closing, is worth mentioning. The term "pluriglandular therapy" is destined soon to come into more general usage. It refers to the application of balanced combinations of internal secretions in certain indefinite and generalised conditions. In neurasthenia, suboxidation, convalescence, and "run-down" conditions in general, the manifestations are not confined to the digestion, nerves, or muscular system. This physiologic laziness—if I may coin a term—is general, including, of course, the work of the internal secretory organs. This hindrance to their normal function is an extremely important factor in preventing rapid recovery and lowering the resistance still further—and it is almost invariably not taken into consideration, and just as secretin gives the needed stimulus to the digestive glands, and thyroid extract supplies the missing factor in athyroidia, so can

one add to the orthodox treatment of the conditions in the class just mentioned a combination of hormones with the idea of enhancing the whole work of the system.

The results of the use of a tonic combination of hormones will be found to be very pleasing. Digestion is increased, nervous stability returns, the capacity for both mental and muscular work is greater, and a general invigoration follows what has been called the hormotonic treatment.

More than twenty years of the writer's life has been devoted to the laboratory side of this most interesting work, and the success of several preparations bearing my name is proof that this field of endeavour is far from fruitless. I am always very pleased to hear from physicians interested in this subject with a view to convincing them by literary and clinical means of the every-day application of hormone therapy in routine practice.

#### PROSTATECTOMY IN THE AGED.

DR. H. A. MOORE, Indianapolis, reports the successful performance of prostatectomy on two patients, both of whom were over ninety years of age. The perineal method was followed in each case, and in neither of them was any difficulty experienced in shelling out the hypertrophied glandular tissue. Both cases recovered without shock.—*Interstate Medical Journal*. Saint Louis, Mo., Vol. XX., No. 7. July, 1913.

#### OIL OF CEDAR POISONING.

DRS. THOMPSON and ARCHIBALD, of Saint Louis, report a case of oil of cedar wood poisoning. The patient, a woman, aged twenty-two years, was found in her night-clothes, partly lying out of bed, and there was a slight amount of vomitus on the floor, which was tinged with blood. Autopsy.—Jaw rigid, tip of the tongue protruded between teeth; vessels of the omentum, mesentery and pelvis deeply injected; distinct hyperæmic areas of the colon; kidneys deeply congested, as was the pia mater.—*Ut supra*.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Glandes Surrénales et Organes Chromaffines.* By M. LUCIEN, Associate Professor of Anatomy; and J. PARISOT, Associate in Medicine; Faculty of Medicine, Nancy. Paris: Société d'Éditions Scientifiques et Médicales (F. Gittler, Directeur). 1913. 8vo. Pp. iv + 453.

THIS is the first of a series of monographs on the Glands of Internal Secretion to be brought out by the same publishers. Others are to follow on the Pituitary, the Thyroid, &c. The aim in each case is to give a concise but complete account of the anatomy, physiology, pathology, and diseases associated with each gland.

In the present instance it may be said at once that the object in view has been admirably achieved.

The work is divided into four parts. The first part is mainly anatomical, and includes five chapters, four of which are devoted to the comparative anatomy, development, descriptive anatomy, and histology of the suprarenals proper. In chapter V. an account is given of the accessory suprarenal and chromaffine organs.

Part II. deals with the physiology of the organs in a very complete way. It comprises eight chapters, four of which treat successively of the effects of extirpation (partial or complete); the physiological action of extracts; the biochemistry of the glands, in particular of the lipoids, the pigments, and of adrenalin. The methods of detection and estimation of adrenalin are particularly well done. Then comes a very minute account of the cardio-vascular effects of extracts of the gland, both immediate and remote, together with a discussion of the mechanism by which they are produced. This is followed by chapters dealing, respectively, with the special action of adrenalin

on other organs, such as those of digestion, of respiration, &c.; with its influence on metabolism and general nutrition; with the physiology of the accessory suprarenals; treating lastly of the glands as organs of defence.

In the third section of the book the pathology of the glands is considered. This is mainly confined to the structural changes which accompany atrophy, hypertrophy, degeneration, vascular and inflammatory lesions, and the growth of tumours in the suprarenals as well as in other chromaffine organs such as the parotid gland.

The last part is entitled the "Suprarenal Syndromes in Pathology," and is one of the most interesting sections of the book. It begins with a general consideration of the symptoms associated with suprarenal disease, and then goes on to consider in succession the syndromes correlated with chronic affections, with acute infections and intoxications, with conditions in which other glands of internal secretion are involved (pluriglandular syndromes), and with the growth of tumours in these organs.

Then follows an important chapter on the suprarenal glands in legal medicine. Here it is shown that many cases of sudden death, of death from so-called surgical shock, and of sudden death after minor operations, are due to suprarenal deficiency or to the paralysing effect of chloroform on the functions of the glands. A plea is in consequence made for the careful examination of the suprarenal bodies in all cases of apparently unaccountable sudden deaths. In this chapter also a method is suggested for ascertaining in medico-legal cases whether the onset of death has been slow or rapid. If the former, the quantity of adrenalin present in the glands is greatly reduced; if the latter, it is normal. The method of dosage is very simple. It consists in making an extract of the glands, boiling to remove proteins, and adding a few drops of a saturated solution of ferrieyanide of potassium to the extract which has previously been rendered alkaline by ammonia (method of Cevidalli). A red colour is developed, the depth of tint varying with the amount of adrenalin present.

The last chapter of the book is devoted to the applications and results of suprarenal organo-therapy. In it is discussed very fully and impartially the different methods of administration, the results which have been obtained, the indications for and against, and the various affections of the organs in which treatment by this means has been more or less successful.

The work as a whole is a valuable and practical one which cannot fail to be appreciated by medical men. It is illustrated by 100 figures in the text. One improvement might be made—namely, a full bibliographical reference to the works of other authors quoted.

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*A Plea for the Thorough and Unbiased Investigation of Christian Science.* By an Enquirer. London: J. M. Dent & Sons. 1913. 8vo. Pp. xi + 208.

THE modest author of this booklet had “a somewhat remarkable experience” about five years ago—which would seem to have set him furiously to think on the subject of his present publication. In days of yore some people would probably have regarded the result of his experimental cogitation as a “revelation” from the only illuminating source. And it would appear that in our own day this work will be credited to inspiration (at least second-hand, *per* the spirit of MARY BAKER EDDY) by the evangelists of, and converts to, the new knowledge of the mysterious manifestations of the divine and the supernatural; in a generation—not necessarily viperous—of materialists and Philistines. However the present report may be received by the members of the latter tribe, we have it from the author’s own pen that “later experiences . . . have proved to my own satisfaction” that Christian Science is “more reliable and satisfactory in every way than ordinary medical methods.” And we must here admit, at the dictation of scientific candour, that: having regard to the present state of medical education; and the subsequent practice inspired thereby—well, that some foundation has been laid (and

is now being tested) for the opinion that we once heard enunciated by a cynical medical student, to the effect that if one of his own limbs happened to be badly damaged, he would prefer the soothing advice and attention of Mrs. Eddy to the possible surgical performances of chirurgical acrobats of the Sir Baboo and Sir Blunderboar type. This was, of course, in the past generation; and the recent passing of practitioners of that ilk has left us breathing a healthier atmosphere.

Our author himself attributes the antagonistic attitude of the clerical and medical professions "to the misleading influence of prominent members of both professions"—which was adopted "without having grasped even the basis of its philosophy." We feel constrained to recognise the presence of a grain of truth in this statement of view-point. In the present generation of hurry and worry, the average member of one profession does not, as a rule, indulge in any acrobatic endeavours to "put himself in the other fellow's place." And among the vast majority of things which are never (mentally) discerned by the average man are those which are always before his eyes. Those who would deny all clinical results to *suggestion*, and *faith-cure*, and *Christian Science*, and other applications of psycho-therapeusis, must be blissfully unaware of the facts of their own hourly existence—of the influence of *hope* and of *fear* on the circulation, nutrition, appetite, and digestion; of the fact that the greatest results hitherto recorded to the credit of humanity owed their mainspring to the influence of the emotions; that is to say, of the factor which most broadly marks off man from beast. And here we would point out that the author seems to have dropped his cue when stating that "questions of philosophy and religion . . . must ultimately be resolved into questions of fact which either are or are not logically provable." Experts have often pointed out that the believer may *safely laugh* at his faith, but should *never* be encouraged to *reason* about it. Our author opens his *Introduction* by observing that "When a business man undertakes for the first time



the somewhat arduous task of writing a book, it may fairly be assumed that he feels that such a book is needed." We quite agree—while pointing out that it may as "fairly be assumed" that in case of a subject requiring, as this does, the most expert skill, he should try to get somebody else to write it. K.

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*The Difficulties and Emergencies of Obstetric Practice.*

By COMYNS BERKELEY, M.A., M.D., B.C. Cantab., F.R.C.P. Lond., M.R.C.S. Eng., Obstetrical and Gynæcological Surgeon to the Middlesex Hospital, Lecturer on Obstetrics and Gynæcology, Middlesex Hospital Medical School, Examiner in Obstetrics and Gynæcology to the University of Oxford and the Conjoint Board of England; and VICTOR BONNEY, M.S., M.D., B.Sc. Lond., F.R.C.S. Eng., M.R.C.P. Lond., Assistant Obstetrical and Gynæcological Surgeon to the Middlesex Hospital, &c. With 287 Illustrations. London: J. & A. Churchill. 1913. Large 8vo. Pp. xii + 787.

THIS book is intended to afford practical guidance to the practitioner when he is called upon to deal with the difficulties and emergencies of obstetrical practice. The physiology and management of normal pregnancy and labour have been omitted. The authors are to be congratulated on the production of a most readable and reliable work which may fairly be regarded as descriptive of the best modern practice. Other times, other customs. What would the conservative London obstetrician of even ten years ago have said of its teachings!

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*The Milk Question.* By M. J. ROSENAU, Professor of Preventive Medicine and Hygiene, Harvard Medical School; formerly Director of the Hygienic Laboratory, United States Public Health and Marine-Hospital Service, Washington, D.C. London: Constable & Co., Ltd. 1913. 8vo. Pp. xiv + 309.

THE importance of the milk question is now so generally recognised that it may be regarded as one of the most

pressing problems of the day. The more one studies it the more complex and far-reaching it appears to be. We find variations of administrative methods in different municipalities, all aiming at the provision of a relatively clean milk supply to the population. In Great Britain the work of Hope in Liverpool and of Niven in Manchester may be taken as types of systematic effort in this direction.

The book before us forms one of the series of "N. W. Harris Lectures," founded by a Chicago citizen "to stimulate scientific research of the highest type and to bring the results of such research before the students and friends of Northwestern University, and through them to the world." Though primarily American, European investigations and experience have been availed of largely in its preparation. It is more than a text-book; it deals with the milk problem from the public health and administrative points of view. Much of the work is of the "popular" type—in the best sense; this may be said more especially of the cartoons, most of which are excellent. One, published by the American Medical Association (a prize winner!) is inserted as an example of what such productions should not be, and we emphatically agree with the author's comment that such sensational pictures probably do more harm than good. It is dreadful print, containing a germ of truth and implying a whole falsehood which might, when placed before uneducated people, cause a disuse of a necessary article of diet.

The chapter on diseases caused by infected milk is an eminently fair statement of the case, and the author's moderation in dealing with the subject enhances its value. This is notably true in regard to tubercle and the deductions which are made from the results of bacterial examinations of milk samples. In this connection the consideration of the relation of bovine to human tuberculosis, and the relative incidence of infection in man of tuberculosis of the bovine and the human type, may be referred to. The results of researches carried out in the laboratories of the Department of Health of New York

City have yielded results so suggestive that they call for further investigation in this field.

The recommendations regarding receptacles for milk during collection, transit, and storage are extremely practical, and would well repay the attention of all who have to do with milk during its progress from the cow to the consumer: but however much may be effected by clean vessels and clean handling we can never attain to a clean milk supply so long as the milking of cows is left in the charge of the most ignorant and least cleanly portion of the community. Reform should begin in the dairy yard amongst the workers.

In regard to Pasteurisation we would state merely that were the rules given in this book strictly adhered to, the objections to the process held by many consumers would vanish. We have read the work with pleasure and profit.

*Dr. Chavasse's Advice to a Mother on the Management of her Children.* Illustrated. Revised by T. D. LISTER, M.D.; Physician to the Royal Waterloo Hospital for Children and Women. Seventeenth authorised Edition. 340th thousand. London: J. & A. Churchill. 1913. Cr. 8vo. Pp. xii + 338.

THE phenomenal success which has all along attended the production, and reproduction, of Dr. Chavasse's well-known little volume has made it a land-mark in the history of professional literature; while demonstrating, to a degree of logical certitude, that the subject and its treatment have reached, and been based upon, one of the specialised areas of the bedrock of human sympathies. The fact that it offers points of emotional and scientific contact to every household, to every parent, and indeed to every human being, goes to account for the collateral fact, which has recently been stated in our presence, that the work has been oftener bought, oftener borrowed, and oftener stolen than any other medical work of the past century. Our own copy has already vanished! It need hardly be added that a volume of quality so magnetic requires no recommendation from the reviewer.

K.

*The Surgical Diseases of Children.* By WILLIAM FRANCIS CAMPBELL, A.B., M.D., and LE GRAND KERR, M.D. New York and London: D. Appleton & Co. 1912. Royal 8vo. Pp. xxviii + 693.

WE must congratulate the authors in having put at our disposal a really good book on the surgical diseases of children. Through every chapter a thoroughly practical strain can be detected, and theories are discounted. Further, the book, unlike many similar publications, makes one feel that it is worth reading.

The chapters which especially attract attention are those on congenital syphilis, hernia, and fractures.

The illustrations are instructive and well chosen.

The authors dedicate the book to the "Family Physician," yet it is one which will be of still greater use to the general surgeon, by whom it will certainly be appreciated.

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*The Healthy Marriage.* A Medical and Psychological Guide for Wives. By G. T. WRENCH, M.D., B.S. (Lond.); Past Assistant Master of the Rotunda Hospital, Dublin, &c. London: J. & A. Churchill. 1913. Cr. 8vo. Pp. viii + 300.

THE chief subject which engrossed the attention of this year's International Medical Congress was Syphilis. The daily papers all speak openly of the "Hidden Plague." A Royal Commission is to be appointed to inquire into the matter. In the *English Review* for July there is an excellent article on the difficulties and dangers of marriage in Africa. In fact, marriage with its pros and cons is the most discussed question of the present time. We are glad to have had an opportunity of reading and reviewing Dr. Wrench's splendid work, and trust that the publishers will send it for review not only to the medical press, but also to the different lay papers.

Ignorance of the rites of matrimony often brings deep sorrow, and we know of no more suitable work to be placed in the hand of the bride or bridegroom than "The Healthy

Marriage.” There is so much information to be gleaned from its pages that in the space at our disposal we can but touch on the fringe of the contents and recommend our readers to go further and buy the book.

Marriage is dealt with from every point of view : the best age to marry, with the advantages and disadvantages of early and late marriage, and the economic side of matrimony are carefully treated. Dr. Wrench gives statistics to prove that mortality is greater in the married than in the unmarried state. We should much like to know his reasons for thinking that the emancipated woman should not marry : such dogmatic assertions are useless without reliable statistics.

Women are advised to abstain from alcohol. Professors Forel and Kraepelin are quoted : they consider that children are degenerate who are conceived while alcohol is circulating in the parent’s blood. The author is not inclined to agree with all the views of these learned professors. A woman’s life from the onset of menstruation to the menopause, with many useful hints on pregnancy, labour, the puerperium and lactation, occupy the second half of the book.

The world will be indebted to the Eugenic Society and to thinkers such as Dr. Wrench when parents have been educated to pay more attention to the health bill of the prospective bridegroom and less to his bank account.

*A Manual of Operative Surgery, with Surgical Anatomy and Surface Markings.* By DUNCAN C. L. FITZWILLIAMS, M.D., Ch.M., F.R.C.S. Eng., F.R.C.S. Edin. ; Surgeon in Charge of Out-patients, St. Mary’s Hospital, &c. London : Baillière, Tindall & Cox. 1913. Demy 8vo. Pp. viii + 450.

IN the preface the author states that this text-book is written for the instruction of the apprentice and to help the journeyman craftsman of our profession, but that it is not written to be read by surgeons.

There are two obvious objections to the fulfilment of this intention—namely, that the price, viz., 10s. 6d., is

too high for the average student ; and secondly, that many of the operations are too advanced to be of use to the student. If all out-of-date operations and all rare operations were omitted from all text-books written for students we should soon have a far better standard. Among such operations many amputations and the ligature of most arteries might be classed. Further, there is, as is usual in these books, no reference to some common operations such as those for varicose veins, hydrocele and to intravenous injections.

Apart from the above points the book is deserving of praise. It is very well turned out ; the general arrangement and clearness of illustration and description deserve every praise. We can strongly recommend the book to anyone seeking a book written on the usual lines.

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#### RECENT WORKS ON MEDICAL CLIMATOLOGY.

1. *Health Resorts of the British Islands*. Edited by NEVILLE WOOD, M.D. ; Member of the Council of the Section of Balneology and Climatology of the Royal Society of Medicine. With the assistance of an Advisory Committee. With 40 Illustrations and 3 Maps. London : University of London Press. Published for the University of London Press, Ltd., by Hodder & Stoughton, Warwick Square, E.C. 1912. Demy 8vo. Pp. xii + 253.
2. *The Principles and Practice of Medical Hydrology : Being the Science of Treatment by Waters and Baths*. By R. FORTESCUE FOX, M.D. ; late Hyde Lecturer on Hydrology, Royal Society of Medicine. London Medical Publications. London : University of London Press. 1913. Demy 8vo. Pp. xiv + 295.
1. THIS book, which has been edited by Dr. Neville Wood, and which largely owes its appearance to his energy, should prove of distinct value not only to the medical profession at home and abroad, but also to the general public. After a brief account of the natural mineral waters of the

British Isles, the chief inland spas are dealt with in alphabetical order, the account in almost every case being furnished by medical men or others actually resident in the place described. In this way accurate up-to-date information is provided, concise and to the point. We regret that the Irish spas—Lucan and Lisdoonvarna—are not included in this list. Both spas indeed receive mention in the introductory chapter of the book, but we think they are both worthy of more extended notice, even if they are not fitted out in a modern luxurious style. Many Irish patients, either from motives of economy or from choice, frequent these spas and derive much benefit from the treatment and waters.

The second half of the book is devoted to a description of the seaside resorts of Great Britain. These are dealt with systematically in much the same way as the inland spas. The chapter on Irish seaside resorts is from the pen of Professor Lindsay, of Belfast, and is fairly complete, although there are some omissions. Tramore, for example, is unmentioned.

An important object of this book is to provide for European physicians a manual, similar to those published in the Continent, in which British health resorts are exclusively dealt with. To facilitate the familiarisation abroad of the information now compiled a French edition is contemplated, and will, we feel sure, be of value in spreading information concerning the health-giving properties of many of our British spas and watering places.

The book should be in the study of every physician who is called upon to advise his patients either with regard to their annual holiday or as to what balneological treatment is required for their particular ailment. It will well repay perusal, and will be useful for reference.

2. DR. FORTESCUE FOX has written an informing work on a subject concerning which the information of the average medical man is apt to be unsystematised and hazy. He attacks his subject at the beginning and brings the reader in successive stages to the discussion of the indication for hydrological treatment. Preliminary to

this he deals with the physiology of the skin, the way in which the body generally reacts to baths, the different methods of applying hydrotherapy, and the various mineral springs that are in use for therapeutical purposes. The book is written in an easy style, and is decidedly practical. The chapter entitled "The Province of the Spa Physician" alone demonstrates that the author is acquainted with the difficulties that doctors practising at spa resorts have to deal with. Incidentally he hints that a thorough knowledge of the effects of hydrological treatment, and of the springs in their own locality in particular, will do much to minimise these difficulties, and with this view we are in hearty agreement. The mere settling at a spa and prescribing routine baths does not constitute a spa physician in whom confidence can be placed. The subject of hydrology requires special study, and the present volume should prove of aid to those who wish to pursue that study.

Part IV. of the book, which deals with the indications for hydrological treatment, and which also contains an index of spas, should prove of special utility for reference by the general practitioner who is called upon to advise concerning a course of baths and waters at home and abroad.

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*The Practical Medicine Series, comprising Ten Volumes on the Year's Progress in Medicine and Surgery.* Under the General Editorial charge of CHARLES L. MIX, M.D. Volume IV. Gynæcology. Edited by EMILIUS C. DUDLEY, M.D., and HERBERT M. STOWE, M.D. Chicago: The Year Book Publishers. 1913. 8vo. Pp. 230.

THE custom of publishing year books has become very common. The series issued by the Chicago Year Book Publishers has the marked advantage over other such publications that the general practitioner is able for a moderate sum to have a *résumé* of the whole of the annual medical news whilst the specialist need only secure the volume or volumes on the subject interesting to him.



There has been very little original gynæcology during the past year. The treatment of tumours by *x*-rays is the most notable. Professor Döderlein said at this year's International Medical Congress that operation for tumour would be soon a thing of the past. We doubt greatly if hysterectomy and myomectomy will be abolished in our time.

In the present volume there is a great deal concerning gynæcological disease in the insane. It is a difficult matter for the gynæcologist who encounters such conditions and who is exercised as to whether the operation to cure the disease will cure the insanity or will aggravate it. We are still far from a solution of this difficult problem.

Amongst other interesting articles are :—The technique of removing adipose deposits in the abdominal wall, the premonitory symptoms of embolism, and the formation of artificial vaginae.

The importance of blood loss in gynæcological operations cannot be too strongly urged. Many a Wertheim operation has had a fatal result from this cause, when a little care in avoiding hæmorrhage might have turned failure into success.

There are some beautifully drawn illustrations. Those describing a new perinæorrhaphy by Dorsett and an operation for uterine displacements modified by Willis are most instructive.

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*Obstetric Aphorisms for the Use of Students commencing Midwifery Practice.* By JOSEPH GRIFFITHS SWAYNE, M.D. Eleventh Edition, revised and edited by WALTER CARLESS SWAYNE, M.D., B.S. Lond., &c. ; Professor of Obstetrics in the University of Bristol, &c. London : J. & A. Churchill. 1913. Cr. 8vo. Pp. xiv + 216.

SWAYNE'S "Obstetric Aphorisms," as evidenced by the publication of an eleventh edition, has enjoyed much favour, and this last edition should prove to be as popular as its predecessors. There is no intention to delve deeply into obstetrics. The work is divided into three parts, the

first embracing "The Management of Normal Labour;" the second, "Cases which the Student may undertake without Assistance;" the third, "Cases in which the Student ought to send for Assistance."

Before the twelfth edition appears we would make the following suggestions:—(1) That explanatory text should be given under each illustration. (2) That in illustrating any operative procedure the obstetrician should not be seen wearing an ordinary coat and cuffs extending to the wrist. (3) That palpation of the abdomen should be illustrated with the physician sitting to the right side of the patient. It is a pity that this is not a universal teaching. (4) That *ante-partum* hæmorrhage should be dealt with more thoroughly.

We offer these criticisms of an excellent work, which we can confidently recommend to the busy practitioner and student.

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*Diseases of Children.* A Practical Treatise on Diagnosis and Treatment for the Use of Students and Practitioners of Medicine. By BENJAMIN KNOX RACHFORD. New York and London: D. Appleton & Co. 1912. Royal 8vo. Pp. xvii + 783.

THOUGH we are fortunate in the possession of several standard works on this subject, we are always glad to welcome another, provided it can add to our resources in dealing with a difficult department of practice.

The fundamental importance of the health of the child is receiving thorough if tardy recognition, and the author of the work before us occupies a prominent position amongst those who are striving to attain this end. A former President of the American Pediatric Society and physician to several pædiatric institutions, he has made a very special study of the child in health and disease, and the results are embodied in the present volume.

The work purports to be a "practical clinical treatise" in which theoretical discussions are omitted in order to find more space "to clearly outline the differential

diagnosis and give in full the treatment of these diseases.” This object has been well achieved, and we have an account of the disorders of infancy and childhood, the complete and useful character of which only extended acquaintance can appreciate.

The care of the normal child is not neglected—in fact the chapters dealing with this subject form perhaps the most original and readable in the book. Put in the author’s words “ the giving of medicine is a comparatively small part of the physician’s duty.” We are glad to see the scientific methods advocated for the preparation of milk and infant foods, the acme of which is probably the “ Rotch ” method of milk laboratories from which milk may be ordered by prescription according to the strength desired—*e.g.*, R. Fats, 3 per cent. ; milk sugar, 6 per cent. ; protein, 1 per cent. (whey, 0.75 per cent. ; casein, 0.25 per cent.).

It is difficult to particularise in the case of such a work as this, as the entire is excellent, but we have no hesitation in recommending the book to those who seek a reliable guide in a subject which few, in one capacity or other, can escape.

*Surgical Experiences in South Africa*, 1899–1900. Being mainly a Clinical Study of the Nature and Effects of Injuries produced by Bullets of Small Caliber. By GEORGE HENRY MALINS, C.B., F.R.C.S. Second Edition. London : Henry Frowde, Oxford University Press, Hodder & Stoughton. 1913. Demy 8vo. Pp. xvi + 504.

THE title and above explanation are a sufficient description of this well-known book. The fact that a second edition has been brought out is the best practical argument in its favour, and to our mind it is very remarkable that a book which can only appeal to a very small section of the profession should be in demand twelve years after its first appearance. However, all wonder disappears once a reader begins to master the contents, for there is some-

thing which appeals to the reader in spite of the fact that he may never have seen an injury inflicted by a modern weapon. Writing without definite knowledge one feels that this book must be used as a text-book by all who may be called upon to treat wounds received in warfare, and that it will continue to be so used, until the present day type of projectile is changed, is beyond doubt.

*RECENT WORKS ON DISEASES OF THE EYE.*

1. *Diseases of the Eye.* A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A.M., M.D.; Professor of Ophthalmology in University of Pennsylvania and Ophthalmic Surgeon to the University Hospital; Consulting Ophthalmic Surgeon to the Philadelphia Polyclinic; Ophthalmic Surgeon to the Philadelphia Hospital; Ophthalmologist to the Orthopædic Hospital and Infirmary for Nervous Diseases. Seventh Edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1913. 8vo. Pp. 979. 360 Illustrations and 7 Chromolithographic Plates.
  2. *Diseases and Injuries of the Eye.* A Text-book for Students and Practitioners. By WILLIAM GEORGE SYM, M.D., F.R.C.S.E.; Ophthalmic Surgeon, Edinburgh Royal Infirmary; Lecturer on Diseases of the Eye in the University of Edinburgh. London: Adam & Charles Black. 1913. Crown 8vo. Pp. xvi + 493. 75 full-page illustrations, 16 of them in colour and 88 figures in the text; also a type test-card at end of volume.
1. In reviewing any medical text-book which has reached its seventh edition the reviewer is tempted to think out what recent discoveries, methods of treatment, or operations he himself has knowledge of, and then to see which of these have been omitted from the book he is reviewing. Working from this basis we can very heartily congratulate Dr. de

Schweinitz on having incorporated in this present edition of his book on diseases of the eye certainly all the important novelties that have been introduced to ophthalmic surgeons in later years. We think, however, that in the sections treating of colour-vision and colour-blindness more attention should have been paid to the work of Dr. Edridge-Green than the mere statement that he (amongst others) has designed a useful lantern for testing colour-blindness.

The first four chapters are devoted to general optical principles, examination of the patient, the ophthalmoscope, normal and abnormal refraction. In these chapters the author has had valuable assistance from Dr. Edward Jackson, of Philadelphia. Following these preliminary chapters the diseases of the various regions of the eye and its appendages are carefully and fully explained, though (as the book is intended largely for students) we think a short paragraph at the beginning of each chapter treating of the anatomy of the region under discussion would be of use. The excellent chapter on operations is followed by an appendix on the use of the ophthalmometer and tropometer—the latter being an instrument not generally used in this country. The index is quite good, misprints are few and far between, though we fancy that the word “aural” on page 418 must be an error for “oral.”

The general get up of the book is excellent, and the illustrations are good.

This is a book—rather too large for the average medical student, we think—to be thoroughly recommended to practitioners as presenting a clear, unbiased and definite view of diseases of the eye and their treatment.

2. We can very heartily congratulate Dr. W. G. Sym upon the appearance of this his book. There are, and we may suppose there will be, many books of this kind, and there will always be a demand for them if they are as excellent as this present specimen. We may at the outset describe it as a “clinical” book—the author so calls it in his preface—which gives a very clear exposition of the generally accepted views of ophthalmic surgeons and a

(perhaps) clearer exposition of the views of the author of the book. Now, the present reviewer approves highly of this method of treating the subject for students. Take, for example, Dr. Sym on advancement in squint operations:—"The variations in detail in the manner of operating are legion, each surgeon being prone to the opinion that the secret of success lies in some trifling modification or unimportant variation which he has invented, and which has no real significance whatever."

He then proceeds to give a clear description of a "useful method," which we have no doubt he has frequently performed with success. This is the keynote of the book. Another ophthalmic surgeon reading the book may consider that the author is too dogmatic, but this view is not correct. What the student—and we may add the practitioner—wants in a book of this size and aim is a clear and definite method of treating more or less definite conditions. The enunciation, in an abridged form, of the views of numerous ophthalmic surgeons on specific points may be interesting to specialists, but can be of little benefit to students. The adequate presentation of such differing views necessitates an encyclopædia of ophthalmology.

There are three new features—at least new to the present reviewer in a book of this size—which we can heartily recommend—viz., the chapters on medico-legal questions, the points in general diagnosis (Chapter XXII.), and the brief but excellent chapter on nursing (written by Sister Douglas, in charge of Dr. Sym's wards in the Royal Infirmary, Edinburgh).

There is one point in the treatment of the eye after cataract extraction has been performed on which we hold an opinion differing from that of Dr. Sym—we do not put a "so-called antiseptic dressing" on such an eye as an antiseptic for the eye, but as a method of limiting the movements of the eye and as a protection to the eye. We have tried the open method of treatment on upwards of 100 patients—the Irish may differ from the Scotch—and we have found it unsatisfactory.

We can thoroughly recommend this book to all students and practitioners; and we are sure that there are very few specialists who will not derive much pleasure and profit from reading it.

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*Manual of Bacteriology*. By ROBERT MUIR, M.A., M.D., Sc.D., F.R.S., Professor of Pathology, University of Glasgow; and JAMES RITCHIE, M.A., M.D., F.R.C.P. (Ed.), Superintendent of the Royal College of Physicians' Laboratory, Edinburgh, formerly Professor of Pathology in the University of Oxford. Sixth Edition. With one hundred and ninety-two Illustrations in the text and six Coloured Plates. London: Henry Frowde, Oxford University Press, and Hodder & Stoughton. 1913. Cr. 8vo. Pp. xxiv + 736.

So recently as May, 1911, this manual was reviewed in the pages of this Journal. Little need be added to the favourable notice of the work which was then published. Well within three years another—the sixth—edition has been called for.

The general form and size of the book remain unaltered, but its pages have undergone careful revision, and two noteworthy additions to its contents have been made. A chapter—the twenty-first—on Pathogenic Fungi has been added, and for assistance in its preparation the authors record in the preface their indebtedness to Professor Percy Groom, of the Imperial College of Science, London, and to Dr. Cranstoun Low, of Edinburgh. In this chapter the following examples of common non-pathogenic types of fungi are given and described—Zygomycetes: *Mucor Mucedo* (and other species of *Mucor*); Ascomycetes: *Aspergillus herbariorum* (= *A. niger*), *Penicillium crustaceum* (= *P. glaucum*), *Saccharomyces* or Yeasts (*Torula*, *Mycoderma*); Fungi imperfecti: *Oospora lactis* (Fres.) (= *Oidium lactis*). The common fungoid infections of the skin are then described—namely, *tinea*, *favus*, *thrush*, *aspergillosis*, *sporotrichosis* and *blastomycosis*. The chapter ends with a brief note on

*Microsporon furfur*, the organism associated with pityriasis versicolor.

In chapter V., on the methods employed in sanitary work for the bacteriological examination of the air, soil, water and milk, the section on the bacteriology of milk is new. The following sentence (page 167) is startling :—“ Before the milk reaches the consumer, especially in city supplies, the bacterial content of apparently fresh milk may rise to several hundred thousands or even millions of bacteria per c.c.” The organisms present belong chiefly to the group of milk-souring bacteria so widespread in nature, but to this group, unfortunately, the *Bacillus coli* and its congeners also belong. So too does the *Bacillus enteritidis sporogenes*, which plays an important causal part in infantile diarrhoea and summer diarrhoea.

The volume contains twenty-two chapters so-called, and then follow nine appendices, and a very useful bibliography. We are at a loss to understand why the word “ Appendix ” is used instead of “ Chapter.” Certainly the subject-matter is sufficiently important to justify the latter word—Small-pox and Vaccination, Hydrophobia, Malarial Fever, Amœbic Dysentery, Trypanosomiasis, Leishmaniosis, Piroplasmosis, Yellow Fever, Epidemic Poliomyelitis, Phlebotomus Fever, and Typhus Fever—such are the headings of the Appendices.

The work can be recommended to both students and practitioners with confidence.

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#### LITERARY NOTE.

A FIFTH edition of Dr. Burney Yeo's “ Manual of Medical Treatment ” is announced by Messrs. Cassell & Co. The revision has been carried out by Dr. Raymond Crawford and Dr. E. Farquhar Buzzard, who collaborated with the author in the fourth edition.



# PART III.

## MEDICAL MISCELLANY.

### SANITARY AND METEOROLOGICAL NOTES.

#### VITAL STATISTICS.

*For four weeks ending Saturday, September 6, 1913.*

#### IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended September 6, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 19.9 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, September 6, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000 :—

COUNTY BOROUGH, &c.	Week ending				Average Rate for 4 weeks
	Aug. 16	Aug. 23	Aug. 30	Sept. 6	
<b>27 Town Districts</b>	<b>19.2</b>	<b>18.7</b>	<b>20.7</b>	<b>19.9</b>	<b>19.6</b>
Dublin Reg. Area ...	18.6	19.5	20.4	19.8	19.6
Dublin City ... ..	21.0	20.0	21.1	21.1	20.8
Belfast ... ..	20.9	18.7	23.0	20.7	20.8
Cork ... ..	25.2	24.5	24.5	19.7	23.5
Londonderry ... ..	17.8	21.6	24.2	15.3	19.7
Limerick ... ..	16.2	8.1	10.8	19.0	13.5
Waterford ... ..	20.9	13.3	24.7	34.2	23.3

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain

epidemic diseases registered in the 27 districts during the week ended Saturday, September 6, 1913, were equal to an annual rate of 5.4 per 1,000. Among the 157 deaths from all causes in Belfast were 1 from each of scarlet fever, measles and whooping-cough, and 30 from diarrhoea and enteritis of children under 2 years. Included in the 29 deaths from all causes for Cork were 15 from diarrhoeal diseases. Three of the 14 deaths from all causes for Limerick were from diarrhoea and enteritis of children under 2 years. Among the 18 deaths from all causes for Waterford were 3 from measles and 4 from diarrhoeal diseases. The 10 deaths from all causes for Galway included 4 from measles and 3 from whooping-cough. Included in the 10 deaths from all causes for Lisburn were one from each of measles and whooping-cough, and 4 from diarrhoeal diseases. Two of the 4 deaths recorded for Wexford were from diarrhoea and enteritis of children under 2 years ; and 2 of the 3 deaths from all causes for Ballymena were from diarrhoea and enteritis of children under 2 years. Included in the 4 deaths from all causes for Tralee were 2 from diarrhoea and enteritis of children under 2 years. Two of the 4 deaths for Newtownards were from diarrhoea and enteritis of children under 2 years of age ; and 3 of the 7 deaths from all causes for Queenstown were from diarrhoeal diseases.

#### DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 403,000 ; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended September 6 amounted to 239—118 boys and 121 girls, and the deaths to 157—74 males and 83 females.

#### DEATHS.

The deaths registered, omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 19.8 per 1,000 of the population. During the thirty-six weeks ending with Saturday, September 6, the death-rate averaged 20.5, and was 1.6 below the mean rate for the corresponding portions of the ten years, 1903–1912.

The total deaths registered, numbering 157, represent an annual rate of 20.3 per 1,000. The annual rate for the past thirty-six weeks was 21.9 per 1,000, and the average annual rate for the corresponding period of the past ten years was 23.2 per 1,000 of the mean population for all deaths registered.

The deaths included one from each of measles, whooping-cough, diphtheria and influenza, 2 from enteric fever, and 31 deaths from diarrhœa and enteritis of children under 2 years. In each of the 3 preceding weeks deaths from measles had been one, 0, and one; deaths from enteric fever had been 0, 0, and 0; deaths from diphtheria had been 0, 0, and 0; deaths from whooping-cough had been 3, 0, and 0; deaths from influenza had been 0, one, and 0; and deaths from diarrhœa and enteritis of children under 2 years had been 27, 21, and 29.

Of 28 deaths from tuberculosis (all forms) 20 were attributed to pulmonary tuberculosis, 2 to tubercular meningitis, 2 to abdominal tuberculosis, and 4 to other forms of the disease. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 27, 30, and 26.

There were 14 deaths from cancer.

The deaths of 5 children were caused by convulsions, 3 being infants under one year of age. There was one death of one infant from congenital defects, and there were 5 deaths from congenital debility, and 4 deaths from premature birth.

The deaths from pneumonia included one from broncho-pneumonia, and one from pneumonia (type not distinguished).

Six deaths were caused by organic diseases of the heart. There were 7 deaths from bronchitis.

The deaths from accidental causes or negligence, 4 in number, included the death of one child aged 2 years and 5 months from burns. There was one death by suicide.

In two instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases comprise the death of one infant under one year of age, and the death of one person aged 65 years.

Sixty-six of the persons whose deaths were registered during the week were under 5 years of age (53 being infants under one year, of whom 7 were under one month old), and 22 were aged 65 years and upwards, including 17 persons aged 70 and upwards; among the latter were 5 aged 75 and upwards.

# STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended September 6, 1913, and during each of the preceding three weeks. An asterisk (\*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Group	Pyrexia (origin uncertain) <sup>a</sup>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis ( <i>Phtisis</i> )	Acute Polio-myelitis	Total
City of Dublin	Aug. 16	•	•	12	1	-	2	-	1	8	4	-	•	-	•	-	35
	Aug. 23	•	•	6	2	-	3	-	-	7	7	-	•	-	•	-	35
	Aug. 30	•	•	15	1	-	1	-	-	7	3	-	•	-	9	-	36
	Sept. 6	•	•	10	1	-	3	-	-	11	3	-	•	-	8	-	36
Rathmines and Rathgar Urban District	Aug. 16	•	•	-	-	-	-	-	-	-	-	-	•	•	•	•	-
	Aug. 23	•	•	-	-	-	1	-	-	2	-	-	•	•	•	•	3
	Aug. 30	•	•	-	-	-	2	-	-	1	1	-	•	•	•	•	4
	Sept. 6	•	•	-	-	-	1	-	-	-	-	-	•	•	•	•	1
Pembroke Urban District	Aug. 16	-	-	-	-	-	-	-	-	-	-	-	1	•	-	•	1
	Aug. 23	-	-	1	-	-	-	-	-	-	-	-	-	•	1	•	2
	Aug. 30	-	-	-	-	-	1	-	-	-	-	-	1	•	-	•	2
	Sept. 6	-	-	-	-	-	1	-	-	-	-	-	-	•	-	•	1
Blackrock Urban District	Aug. 16	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
	Aug. 23	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
	Aug. 30	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
	Sept. 6	•	•	-	-	-	3	-	-	-	-	-	•	-	•	•	3
Kingstown Urban District	Aug. 16	•	•	1	-	-	-	-	-	-	-	-	•	•	-	•	1
	Aug. 23	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	-
	Aug. 30	•	•	-	-	-	-	-	-	-	-	-	•	•	-	•	-
	Sept. 6	•	•	-	-	-	-	-	-	-	2	-	•	•	-	•	2
City of Belfast	Aug. 16	•	•	29	-	-	11	1	-	2	2	-	•	•	11	•	56
	Aug. 23	•	•	44	-	-	12	-	-	2	3	2	•	•	2	•	65
	Aug. 30	•	•	30	-	-	5	-	-	2	1	-	•	•	7	•	45
	Sept. 6	•	•	44	-	-	7	-	1	3	3	-	•	•	7	•	65

<sup>a</sup> Continued Fever

**CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.**

During the week ended September 6, 1913, 3 cases of enteric fever were admitted to hospital, 6 were discharged, there was 1 death, and 34 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 43, 37, and 38.

Four cases of typhus remained under treatment in hospital at the close of the week. At the close of the 3 previous weeks the cases in hospital had been 12, 6, and 4 respectively.

One case of measles was admitted to hospital, one was discharged, and one case remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases were 2, 2, and one respectively.

Thirteen cases of scarlet fever were admitted to hospital, 15 were discharged, and 57 cases remained under treatment at the close of the week. This number is exclusive of 13 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 59, 57, and 59.

Eight cases of diphtheria were admitted to hospital, one was discharged, and there was one death. The cases in hospital, which at the close of the 3 preceding weeks had numbered 21, 19, and 21 respectively, were 27 at the close of the week under review.

In addition to the above-named diseases, 5 cases of pneumonia were admitted to hospital, 7 were discharged, there was one death, and 15 cases remained under treatment at the end of the week.

**ENGLAND AND SCOTLAND.**

The mortality in the week ended Saturday, September 6, in 96 large English towns (including London, in which the rate was 12.4) was equal to an average annual death-rate of 13.8 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 16.7 per 1,000, the rate for Glasgow being 19.1, and that for Edinburgh, 13.5.

## INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended September 6. From this Report it appears that of a total of 32 cases notified, 8 were of scarlet fever, 13 of phthisis, 8 of diphtheria, 2 of erysipelas, and one of puerperal fever. Among the 308 cases of infectious diseases in hospital at the close of the week were 127 cases of scarlet fever, 93 of phthisis, 33 of diphtheria, 33 of measles, 4 of whooping-cough, 6 of enteric fever, 6 of erysipelas, and 4 of chicken-pox.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the month of August, 1913.*

Mean Height of Barometer, - - -	30.092 inches.
Maximal Height of Barometer (27th, at 9 a.m),	30.332 „
Minimal Height of Barometer (29th, at 9 p.m.),	29.749 „
Mean Dry-bulb Temperature, - - -	59.1°.
Mean Wet-bulb Temperature, - - -	56.1°.
Mean Dew-point Temperature, - - -	53.4°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.413 inch.
Mean Humidity, - - - - -	81.8 per cent.
Highest Temperature in Shade (on 14th), -	75.3°.
Lowest Temperature in Shade (on 12th), -	46.8°.
Lowest Temperature on Grass (Radiation) (12th and 19th), - - - - -	44.8°.
Mean Amount of Cloud, . - - - -	54.4 per cent.
Rainfall (on 10 days), - - - - -	.941 inch.
Greatest Daily Rainfall (on 9th), - - -	.295 „
General Directions of Wind, - - -	W., N.W., N.E.

*Remarks.*

The splendid summer-like August of 1911 was followed by the dull, cold, wet, and generally inclement August of 1912; and this has now been followed by an extremely fine, dry, bright and warm August in 1913.

As regards atmospheric pressure, the outstanding feature

was the tendency to a high barometer reading over Ireland and the adjoining portions of the Atlantic. This led to a remarkable prevalence of northerly (between N.W. and N.E.) winds, which blew gently in Ireland but more strongly over Great Britain. As was to be expected from this, the weather was finer in Ireland than in the sister island. On three occasions, however, the weather broke—first, from the 8th to the 11th, when the secondary systems of a large but shallow depression centred in Scandinavia and the Baltic passed southwards across the British Isles. In that interval Dublin City received .587 inch of rain in heavy showers. The second disturbed period began on the 21st, lasting to the 23rd. It was related to a depression, in which the barometer fell below 29.2 inches in the South of Iceland. Strong S.W. winds and showers resulted, the rainfall being heaviest round the S., W., and N. shores of Ireland. Lastly, a shallow thunderstorm depression, which moved slowly northwards from Morocco to the English Channel, caused severe thunderstorms in many parts of the United Kingdom, and torrential rains in the South and South-east of England on Sunday, the 31st. Dublin escaped this visitation, and the 31st was a beautiful summer's day in and near the Irish capital. Special mention should be made of a magnificent meteor which passed over the South of Ireland at 10 55 p.m. of the 3rd. It was seen also from Greystones, Co. Wicklow, and from St. George's Channel near Holyhead.

In Dublin the arithmetical mean temperature ( $59.7^{\circ}$ ) was exactly equal to the average ( $59.7^{\circ}$ ). The mean of the dry-bulb readings at 9 a.m. and 9 p.m. was  $59.1^{\circ}$ . The mean maximum temperature was  $66.2^{\circ}$ ; the mean minimum was  $53.2^{\circ}$ . In the forty-nine years ending with 1913, August was coldest in 1912 (M. T. =  $54.4^{\circ}$ ) and in 1881 (M. T. =  $57.0^{\circ}$ ), and warmest in 1899 (M. T. =  $63.4^{\circ}$ ). In 1911 the M. T. was  $63.2^{\circ}$ .

The mean height of the barometer was 30.092 inches, or 0.195 inch above the corrected average value for August—namely, 29.897 inches. The mercury rose to 30.332 inches at 9 a.m. of the 27th, and fell to 29.749 inches at 9 p.m. of the 29th. The observed range of atmospheric pressure was, therefore, 0.583 inch.

The mean temperature deduced from daily readings of the

dry-bulb thermometer at 9 a.m. and 9. p.m. was 59.1°. It was 0.6° above the value for July, 1913. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.*) × .47, the mean temperature was 59.3°, or equal to the average mean temperature for August, calculated in the same way, in the thirty-five years 1871–1905 inclusive (59.3°). The arithmetical mean of the maximal and minimal readings was 59.7°, compared with a thirty-five years' average of 59.7°. On the 14th the thermometer in the screen rose to 75.3°—wind, W. ; on the 12th, the temperature fell to 46.8°—wind, N.N.W. The minimum on the grass was 44.8° on the 12th, and again on the 19th. August, 1912, established a record for low temperatures.

The rainfall was .941 inch on 10 days. The average rainfall for August in the thirty-five years, 1871–1905 inclusive, was 3.240 inches, and the average number of rain-days was 18. The rainfall, therefore, and the rain-days were much below the average. In 1900 the rainfall in August was very large—5.871 inches on 17 days ; in 1889, also, 5.747 inches were registered on 22 days. On the other hand, in 1884, only .777 inch was measured on 8 days. August, 1905, established a record for rainfall in this month in Dublin, for the measurement was 7.019 inches on 22 days, 3.436 inches having fallen on the 25th. In 1912 the rainfall was as much as 5.277 inches on 23 days.

Fresh winds were noted on 4 days, but never attained the force of a gale (8). Temperature reached or exceeded 70° in the screen on 6 days, and on 8 days fell below 50°. A solar halo was seen on the 12th. Lightning was seen on the 3rd, 28th and 29th.

The rainfall in Dublin during the eight months ending August 31st amounted to 16.672 inches on 127 days, compared with 22.088 inches on 150 days in 1912, 11.592 inches on 109 days in 1911, 24.382 inches on 149 days in 1910, 16.677 inches on 119 days in 1909, 17.244 inches on 135 days in 1908, 16.588 inches on 146 days in 1907, 15.425 inches on 139 days in 1906, only 9.455 inches on 96 days during the same period in 1887, and a thirty-five years' average (1871–1905) of 17.950 inches on 131 days.

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At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the mean value of the readings of the dry-bulb thermometer at 9 a.m.



and 9 p.m. was  $60.3^{\circ}$ . The arithmetical mean of the daily maximal and minimal temperatures was  $60.3^{\circ}$ , the mean maximum being  $67.5^{\circ}$ , and the mean minimum  $53.1^{\circ}$ . The screened thermometers rose to  $77^{\circ}$  on the 14th, and fell to  $46^{\circ}$  on the 12th. On the 12th, 19th, 20th, and 25th the grass minimum was  $42^{\circ}$ . Rain fell on 8 days to the amount of .94 inch, the greatest fall in 24 hours being .37 inch on the 9th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 167.4 hours, of which 10.6 hours occurred on the 17th and again on the 31st. The mean daily duration was 5.4 hours. The mean sub-soil temperatures at 9 a.m. were—at 1 ft.,  $61.6^{\circ}$ ; at 4 ft.,  $58.6^{\circ}$ .

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At Ardgillan, Balbriggan, Captain Edward Taylor, D.L., registered only .41 inch of rain on 9 days, the greatest fall in 24 hours being .14 inch on the 8th. The rainfall was 3.24 inches below the average, and the rain-days were 9 in defect. Since January 1, 1913, 16.99 inches of rain have fallen on 122 days, the measurement being 1.91 inches and the rain-days 3 less than the average. The thermometer in the screen rose to  $75.8^{\circ}$  on the 14th, and fell to  $44.0^{\circ}$  on the 12th. The present was the driest August experienced at Ardgillan within the past twenty years. In August, 1905, the rainfall was 6.89 inches.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was only .525 inch on 7 days; the heaviest fall in 24 hours was .300 inch on the 10th. The mean shade temperature was  $58.1^{\circ}$ , the extremes being—highest,  $75.0^{\circ}$  on the 14th; lowest,  $40.5^{\circ}$  on the 7th.

At the Ordnance Survey Office, Phoenix Park, rain fell on 10 days to the amount of .735 inch, the greatest rainfall in 24 hours being .270 inch on the 10th. The total duration of bright sunshine was 168.9 hours, the greatest daily sunshine being 12.5 hours on the 25th. The thermometer rose to  $76.0^{\circ}$  in the screen on the 14th, and fell to  $37.0^{\circ}$  on the 19th.

Miss C. Violet Kirkpatrick measured 1.14 inches of rain on 11 days at Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, the largest record in 24 hours being .27 inch on the 9th.

Dr. Christopher Joynt, F.R.C.P.I., recorded a rainfall of .838 inch on 9 days at 21 Leeson Park, Dublin. The greatest fall in 24 hours was .310 inch, which occurred on

the 9th. In July Dr. Joynt measured .511 inch of rain on 10 days, the maximum in 24 hours being .145 inch on the 18th.

Mr. George B. Edmondson reports that at Manor Mill Lodge, Dundrum, Co. Dublin, the rainfall was .69 inch on 10 days. The maximal fall in 24 hours was .22 inch on the 9th. The mean shade temperature was  $60.1^{\circ}$ , the range being from  $77^{\circ}$  on the 2nd, 14th and 16th to  $46^{\circ}$  on the 20th and 21st.

Dr. Arthur S. Goff reports that at Belfort House, Dundrum, Co. Dublin, rain fell on 9 days to the amount of .79 inch, the greatest daily fall being .20 inch on the 9th. The shade temperature ranged from  $77^{\circ}$  on the 2nd, 14th and 16th to  $48^{\circ}$  on the 6th and 12th. The mean temperature in the shade was  $61.2^{\circ}$ .

According to Mr. W. J. McCabe, the Observer for the Right Hon. Laurence Waldron, at Marino, Killiney, Co. Dublin, only .41 inch of rain fell on 7 days. The maximal fall in 24 hours was .20 inch on the 10th. The average rainfall at Cloneevin, Killiney, in August of the twenty-four years, 1884-1907, was 3.212 inches on 16.8 days.

Dr. A. J. Blake, Resident Medical Superintendent of the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Brittas, Co. Dublin, recorded a rainfall of 1.61 inches on 11 days. The heaviest fall in 24 hours occurred on the 10th and measured .63 inch in the gauge. In July, the rainfall at Crooksling was 1.21 inches on 12 days, the largest measurement in 24 hours being .31 inch on the 18th.

According to Dr. J. H. M. Armstrong, at Coolagad, Greystones, Co. Wicklow, the rainfall for August was .93 inch on 8 days. The heaviest fall in 24 hours was .31 inch on the 10th. The total fall since January 1 amounts to 24.20 inches on 128 days. A brilliant meteor was seen in the west at 10 15 p.m. of the 5th.

At Auburn, Greystones, Co. Wicklow, Mrs. Sydney O'Sullivan recorded a rainfall of .75 inch on 8 days. The greatest measurements in 24 hours were .22 inch on the 9th and .21 inch on the 10th. On the 22nd also .20 inch was recorded.

At the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, Dr. F. Crosbie, M.D., Assistant Resident Medical Officer, reports that rain fell to the

amount of 1.29 inches on 5 days, the greatest daily rainfall being .44 inch on the 9th. The screened thermometers rose to 75° on the 14th, and fell to 47° on the 2nd. The mean maximum temperature was 65.1°, the mean minimum temperature was 52.8°, and the mean temperature was 59.0°.

The Rev. Arthur Wilson, M.A., returns the rainfall at the Rectory, Dunmanway, Co. Cork, as 1.37 inches on 12 days. This rainfall was 3.20 inches below the average. The largest measurements in 24 hours were .29 inch on the 21st, and again on the 22nd. At Dunmanway the month was very warm, especially from the 1st to the 6th, the 13th to the 17th, and the 24th to the 28th. The last 3 days were dull and cool. From June 23rd to August 19th inclusive the rainfall was only .69 inch, following a fall of .70 inch on the night of June 22nd. Thunder and heavy showers occurred on the afternoon of August 11th. The average rainfall in August, based on the returns for the last eight years, is 4.67 inches. In 1911, the rainfall to August 31 equalled 33.35 inches; in 1912 it amounted to 41.54 inches. In 1913 it has been 41.00 inches, or 6.02 inches above the average (34.98 inches).

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#### THE RÔLE OF THE THYMUS IN EXOPHTHALMIC GOÏTRE.

DR. M. G. SEELIG, in an elaborate article on the rôle of the thymus in Graves's disease, concludes:—In Graves's disease an enlarged thymus occurs in 80 to 90 per cent. of the cases in which operation on the thyroid was followed by death. There is no statistical evidence on which to base the statement that the existence of an enlarged thymus contra-indicates thyroidectomy for Graves's disease. Furthermore, there is no proof that an enlarged thymus adds an independent source of toxic danger in cases of Graves's disease. It is impossible to ascertain whether the enlarged thymus is a congenital or an acquired condition; but it cannot be denied that the status thymicolymphaticus may be a general tissue reaction brought about by hyperthyroidism. It may be possible, therefore, that a primary hyperplastic thymus may share secondarily in the general atrophy that occurs as the result of a Graves's cachexia.—*Interstate Medical Journal*, Vol. XX., No. 7. July, 1913.

## PERISCOPE.

### SANATORIUM SCAREMONGERS IN DUBLIN.

IT is the fashion at the present time to say that an intelligent Englishman always turns out on examination to be an Irishman, a German, or a Jew. Certainly exceptionally clever individuals of these races seem easier to name offhand than men of our own. Perhaps they advertise themselves better. But in any case the truth is that the greatest common measure of each nation shows the same number of wise men and fools. Look at the panic in Ireland about the infective dangers of consumption which is still making the United Kingdom laugh at such a shameless combination of cowardice and folly. A modern sanatorium for consumption, as we have often repeated, is not only no danger to a locality, it even tends to raise the rents. But the stupidity which cannot grasp the first of these facts is accompanied by a paralysis of the business faculties which cannot grasp the second, for folly is justified of her children on commercial as well as on other grounds. Thus last week the Dublin newspapers were reporting, under the suggestive title of "Another Peamount?" the terrible discovery that Lady Aberdeen had purchased a house and grounds seven miles from Dublin (a dreadful proximity, is it not?) with a view to establishing a large consumptive hospital, and the locality was urged to bestir itself to prevent her from doing so. Happily, the bubble collapsed after a free incision on the part of Sir Lambert Ormsby, Senior Surgeon to the National Children's Hospital, Dublin, and of Dr. E. J. McWeeney, Professor of Pathology and Bacteriology at University College, Dublin, who pointed out that the sanatorium is intended for cases of tubercular bones and joints requiring surgical treatment. Unable, of course, to grasp the difference between the pulmonary and non-pulmonary tuberculosis from the point of view of infection, the protesting Irishmen are feeling very much ashamed of themselves. Since, however, the hospital world cannot permit itself so cheap a victory over a few terrified laymen, we cannot forbear to point out that, the object of the sanatorium once known, "non-infectious" is an adjective likely to be used as recklessly as its opposite.

The point to make, again, is not that one type of sanatorium is less "a danger" to the community than another, but that neither, under proper control, is a danger at all. Seasickness is not at present believed to be infectious. But why should we set limits to the beneficent discoveries of science? If it is considered infectious in the future, that will be no reason for preventing people from going on the sea. It will be a reason for providing proper isolation arrangements on every vessel, which is exactly what the sanatorium provides for infectious consumptives on land.—*The Hospital*, Saturday, September 13, 1913.

#### DEATH FROM THE INTRAVENOUS INJECTION OF SALVARSAN.

DR. S. GORDON FLEMING, Adelaide, reports a case of death from salvarsan. The patient, a robust man of nineteen, was given 0.6 gm. of salvarsan a short time after the appearance of a hard chancre, and before any secondary manifestations; and two weeks later a second injection of 0.6 gm. was given. He had only a slight reaction, was detained in hospital over night, and next morning was allowed to return home. Dr. Fleming saw him the following day—March 14th—about forty-eight hours after the second injection. He was then complaining of a general feeling of being ill, of epigastric pain, and sensitiveness to noises—all noises sounding like the beat of a drum. On the way home he had been compelled to lie down in the gutter for fifteen minutes owing to giddiness. He was flushed and sweating. Temperature  $101^{\circ}$ , pulse 90, knee-jerks slightly exaggerated. About eight hours later he became irrational, and was very frightened over his condition. Rigors were frequent; pupils equal and active. Bowels opened by an enema. The next morning he was stuporous. He made no response to questions, but reacted to painful stimuli; Babinski's sign present; knee-jerks exaggerated; had eighteen fits during the following twenty-four hours. He vomited four or five times. He was seen in two convulsions; one was generalised, the other was definitely left-sided. By a lumbar puncture an ounce and a half of clear fluid was withdrawn under pressure. The fluid contained blood, excess of cells, no micro-organisms. The patient gradually subsided into a deeper coma, and died ninety-six hours after the injection, or forty-eight hours from the onset of symptoms. His urine

was not obtained, and no *post-mortem* was allowed. The author gives a summary of eight fatal cases following on the use of salvarsan. Of these, seven cases followed on the administration of the second injection of the drug, and in one instance death resulted from one injection. In all these cases meningo-encephalitis with more or less hæmorrhage was found.—*The Australian Medical Gazette*, Vol. XXXIII., No. 24. Sydney, June 14th, 1913.

DR. LOUIS MERCK.

THE death is announced from Darmstadt of Geheimer Kommerzienrat Dr. Louis Merck, in his 59th year. Dr. Merck, whose death occurred on Monday, September 15th, was head of what is probably the oldest established chemical factory in the world—namely, that of E. Merck, of Darmstadt. The business was founded in 1668 by Friedrich Johann Merck, and has since remained in the uninterrupted possession of the family. Dr. Louis Merck entered the firm thirty years ago, and in addition to directing the business generally, he was the active head of the scientific department, in which scores of trained chemists are engaged in research work. He was a life member of the Hessian Upper Chamber, but took no active interest in politics; he was also a vice-president for many years of the Grand Ducal Chamber of Commerce. Dr. Merck was deeply interested in “welfare” work, and himself superintended the organising and development of the social institutions connected with the chemical works. It is an interesting fact that Dr. Merck’s firm was one of the earliest pioneers in the production of alkaloids, and about thirty years ago practically held the monopoly in the manufacture of *santonin*; this drug has lately attracted much attention owing to the fact that, as a consequence of the establishment by the Russian Government of a monopoly in the control of the raw material (from which *santonin* is produced), which grows on the Turkestan Steppes, the price of the drug has within a few years advanced from 4s. per lb. to £5. The firm was also the first to supply *cocaïn* on a commercial scale, and in fact was the only house able to supply this alkaloid when, nearly thirty years ago, at the time when Dr. Louis Merck entered the business, the attention of medical men was drawn to the drug; at that time the value of *cocaïn* was 1s. 6d. a grain, or some-

thing like a hundred times its present price. The works cover an area of 75 acres, and consist of over 200 separate buildings intersected by miles of railway lines.—*The Times*, Sept. 20, 1913.

#### TROPICAL NORTH QUEENSLAND.

THE other day Sir W. MacGregor, Governor of Queensland, opened the new buildings of the Institute of Tropical Medicine at Townsville, North Queensland. The Institute owes its origin to the pioneer work of Dr. Frodsham, then Bishop of North Queensland, and Professor Anderson Stuart, Dean of the Faculty of Medicine at the University of Sydney. These gentlemen had separate schemes which were amalgamated. And now the combined scheme has first borne fruit by Sir William MacGregor—himself a distinguished medical man—presiding at the function above referred to. The Imperial Colonial Office gave £400 to help at the start, Mr. W. K. D'Arcy, a wealthy Queenslander resident in this country, contributed £1,000, and the Universities of Sydney, Melbourne, and Adelaide subscribed. Dr. Anton Breinl, who has been absorbed in tropical research work for the past ten years, and was associated with the Liverpool School of Tropical Medicine, was appointed Director, and temporary premises were secured at the Townsville (North Queensland) hospital. The compelling necessities of finance have been surmounted by the Federal Government of Australia subscribing £4,000 a year and the Government of Queensland £400 a year. With this backing the Committee of Management set to work, and now the Institute has under Dr. Breinl's charge a competent staff of scientific men: Dr. Nicol, late of the Lister Institute, engaged on Ankylostomiasis and Intestinal Parasites; Dr. Priestley (Lister Institute), studying the Mutations of Bacteria and Pathology of the Great White Races; Dr. Taylor, Entomologist; and Dr. Young (Lister Institute), who will study "Food and Nutrition." Beyond the research which gathers round the "Rossa Cycle" in Malaria, &c., the Institute has a great work in hand, which is really its mainspring, no less a work than that of solving the great question of the White Race in Tropical Australia—what is its future? As the home of a great White Race, Tropical Australia is on its trial, and this is one of the greatest and most interesting of modern

questions of statesmanship. Science, through Dr. Breinl's work and that of his staff, alone can give a reply, and the North Queensland Institute is now hard at work gathering material for consideration of this weighty problem, upon the solution of which the thorough settlement of Australia as a whole depends. If the policy succeeds (and see what has been done at Panama) there will be room and work for millions of Britons in the fertile regions skirting north and north-eastern Queensland. The problem, in a word, which has to be tackled is how to regulate life in the tropics so that white people may retain the characteristics of a fine white race, and that was the text of Sir William MacGregor's address, and will be the watchword of the Tropical Institute now at work in Northern Queensland.

## NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

### *Transparent Zoological and Anatomical Specimens.*

AMONG the many remarkable exhibits in the wonderful Museum of the XVIIIth International Congress of Medicine held in London in August last, one of the most novel and interesting was that of Prof. Dr. Werner Spalteholz, of Leipzig, demonstrating his method of rendering organs and tissues transparent, and of illustrating the vascular supply of bones, &c. The Professor's exhibit (Nos. 3375 to 3390 in the Catalogue of the Museum) included a number of bones stained with alizarin—a red, crystalline principle,  $C_{14}H_8O_4$ , obtained synthetically from coal-tar and from madder (*Rubia tinctoria*)—decalcified, and rendered maximally transparent by means of a mixture of oil of winter-green and benzyl-benzoate. This method enables the observer to see the skeleton, the muscles, the thoracic and abdominal viscera through the skin as in a good skiagraph. The epiphyseal lines can be demonstrated in a young human being, and the gradual ossification of the skeleton may be studied with ease by this marvellous process, the patent of which, we understand, has been recently acquired by the Chemical Works, 59–63 Park Street, Southwark, London, S.E. Within a short time the Firm in question will be in a position to supply almost any object desired after treatment by Dr. Spalteholz's process.



## PART IV.

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### MEDICAL EDUCATION AND EXAMINATIONS IN IRELAND.

1913-1914.

MEDICAL students in Ireland, as elsewhere, have in the first instance to choose between University Degrees and Non-University Qualifications or Diplomas. Should they elect to try for a University Degree, their choice must lie between the University of Dublin, which requires a Degree in Arts before registrable Degrees in Medicine, Surgery, and Midwifery are conferred; the National University of Ireland, which—while not requiring an Arts Degree—requires all students to pass a Matriculation Examination in Arts, before a candidate enters upon the curriculum in the three branches of medicine already mentioned—Medicine, Surgery, and Midwifery; and the Queen's University of Belfast, in which also a Matriculation Examination in Arts is required. Under the Regulations of the School of Physic in Ireland considerable Professional Privileges are afforded to medical students in regard to the Arts Curriculum of the University of Dublin.

Outside the Universities, the chief Licensing Bodies are the Royal Colleges of Physicians and Surgeons. The position of the Apothecaries' Hall of Dublin as a Licensing Corporation under the Medical Act of 1886 has been defined by the appointment of Examiners in Surgery by the General Medical Council at the bidding of His Majesty's Privy Council.

The Royal Colleges of Physicians and Surgeons are in a position to give a first-class working qualification in Medicine, Surgery, and Midwifery—a qualification which is registrable under the Medical Acts, which is universally recognised as one of high merit, and the possession of which is attended by no disabilities, such as preventing its possessor from dispensing medicines or keeping open shop for the sale of medicines, if he is legally qualified to do so.

The Medical Schools in Ireland are—(1.) The School of Physic in Ireland, Trinity College, Dublin; (2.) The Schools of Surgery of the Royal College of Surgeons in Ireland (including the Carmichael College of Medicine and the Ledwich School of Medicine); (3.) The University College Medical School, Cecilia-street, Dublin; (4.) The Faculty of Medicine, Queen's University of Belfast; (5.) The School of Medicine, University College, Cork; and (6.) The School of Medicine, University College, Galway.

Facilities for Clinical Instruction in fully-equipped Medico-Chirurgical Hospitals exist in Dublin, Belfast, Cork, and Galway; but, as a rule, the Schools of Medicine in Ireland are not attached to a given hospital, or *vice versá*, as is the case in London and other large centres of medical education. The student will, however, have little difficulty in selecting a hospital, in the wards of which he will receive excellent bedside teaching and have ample opportunity of making himself familiar with the aspect and treatment of disease.

The detailed information which follows is authentic, being taken directly from the published calendars of the respective licensing bodies.

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#### REGULATIONS PRESCRIBED BY THE GENERAL MEDICAL COUNCIL.

With regard to the course of Study and Examinations which persons desirous of qualifying for the Medical Profession shall go through in order that they may become possessed of the requisite knowledge and skill for the efficient practice of the Profession, the General Medical Council have resolved that the following conditions ought to be enforced without exception on *all* who commence their Medical Studies at any time after Jan. 1, 1892:—

(a.) The period of Professional Studies, between the date of Registration as a Medical Student and the date of Final Examination for any Diploma which entitles its bearer to be registered under the *Medical Acts*, must be a period of *bonâ fide* study during not less than five years. For the purpose of this requirement the close of the fifth year may be reckoned as occurring at the expiration of fifty-seven months from the date of registration.

(b.) In every course of Professional study and Examinations, the following subjects must be contained :—

- I.) Physics, including the Elementary Mechanics of Solids and Fluids, and the Rudiments of Heat, Light, and Electricity.
- (II.) Chemistry, including the principles of the Science, and the details which bear on the study of Medicine.
- (III.) Elementary Biology.
- (IV.) Anatomy.
- (V.) Physiology.
- (VI.) Materia Medica and Pharmacy.
- (VII.) Pathology.
- (VIII.) Pharmacology and Therapeutics.
- (IX.) Medicine, including Medical Anatomy and Clinical Medicine.
- (X.) Surgery, including Surgical Anatomy and Clinical Surgery.
- (XI.) Midwifery, including Diseases peculiar to Women and to New-born Children. [By a recent decision of the General Medical Council the study of (XI.) must not commence till the student has held the posts of Clinical Clerk and Surgical Dresser.]
- (XII.) Theory and Practice of Vaccination.
- (XIII.) Forensic Medicine.
- (XIV.) Hygiene.
- (XV.) Mental Disease.
- (XVI.) Anæsthetics.

The General Medical Council considers that the Regulations of the Examining Bodies should be so framed as to ensure that the study of the Final Group of Subjects (VII. to XVI. above) shall extend over a period of not less than twenty-four months after the passing of the Examination in Anatomy and Physiology.

The first four of the five years of Medical Study should be passed at a School or Schools of Medicine recognised by any of the Licensing Bodies, provided that the First Year may be passed at a University, or Teaching Institution, recognised by any of the Licensing Bodies and approved by the Council, where the subjects of Physics, Chemistry, and Biology are taught.

A student who has, previous to registration, attended a course or courses of study in one or all of the subjects, Physics, Chemistry, or Biology, in any University, School of Medicine, or Teaching Institution recognised by any of the Licensing Bodies, may without further attendance be admitted to examination in these subjects.

A graduate in Arts or Science of any University recognised by the General Medical Council, who has spent a year in the study of Physics, Chemistry and Biology, and has passed an examination

in these subjects for the degrees in question, is held to have completed the first of the five years of medical study.

Six months instruction or more in the Preliminary Sciences at a Teaching Institution (other than a Medical School) recognised by one of the Licensing Bodies and approved by the COUNCIL may count as six months, and no more, of the Curriculum of Professional Study, provided such instruction is subsequent to the date of passing the required Preliminary Examination in general education.

The Examinations in the Elements of Physics, Chemistry, and Biology should be passed before the beginning of the Second Winter Session.

The General Medical Council considers that no Qualification in Medicine ought to be granted without evidence of Clinical Instruction in Infectious Diseases.

## I.

### UNIVERSITY OF DUBLIN.

#### DEGREES AND DIPLOMAS IN MEDICINE, SURGERY, AND MIDWIFERY; AND IN DENTISTRY.

The Medical School of the University of Dublin has for its official title the name of The School of Physic in Ireland. It is officered by University Professors and Examiners and by four King's Professors appointed by the President and Fellows of the Royal College of Physicians of Ireland, acting as Trustees of the Estate of Sir Patrick Dun.

#### MATRICULATION.

Students cannot be permitted to attend any of the Courses of Instruction in the School of Physic in Ireland until they have Matriculated. There is no special Examination; the Public Entrance and Term Examinations of Trinity College, or any other of the Preliminary Examinations recognised by the General Medical Council, being accepted as equivalent. The Matriculation Fee is Five Shillings. It is not necessary for Students to have their names on the College Books, or to attend any of the Academical duties of the University, unconnected with the School of Physic, unless they desire to obtain a Diploma or Degree in Medicine, Surgery, and Midwifery. Students may matriculate at the commencement of either the Winter or the Summer Session. The 17th of November is the last day of admission to the Winter

Session. In the Summer Session the day varies a good deal according to the time at which Easter occurs, and the Courses of Lectures for which the Student proposes to enter.

#### WOMEN STUDENTS.

Women Students are now admitted to the Degrees and Diplomas in Medicine, Surgery, and Midwifery, on the same conditions as men. A special Anatomical Department, with separate entrance, dissecting-room, and reading-room, has been erected by the Board of Trinity College for their accommodation.

#### QUALIFICATIONS.

The Qualifications in Medicine, Surgery, and Midwifery, and in Dental Science, granted by the University are as follow:—

The Degrees are:—

1. Bachelor in Medicine.
2. Bachelor in Surgery.
3. Bachelor in Obstetric Science.
4. Doctor in Medicine.
5. Master in Surgery.
6. Master in Obstetric Science.
7. Bachelor in Dental Science.
8. Master in Dental Science.

The Diplomas are:—

1. Diploma in Public Health (formerly Qualification in State Medicine).
2. Diploma in Medicine.
3. Diploma in Surgery.
4. Diploma in Obstetric Science.

#### FINAL MEDICAL EXAMINATION.—PART I.

The subjects are—Pathology, Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene.

Before they are admitted to the Examination, Students must have attended the prescribed Courses of Study, passed the Intermediate Medical Examination, Part II., and paid the *Liceat* Fee (£5).

Vaccination (Fee, £1 1s.) should be taken out in the fourth year.

#### FINAL MEDICAL EXAMINATION.—PART II.

The subjects are—(a) Medicine, Clinical Medicine, and Mental Disease; (b) Surgery, Clinical Surgery, Surgical Operations, and

Ophthalmic Surgery; (c) Midwifery and Gynæcology (clinical, papers, and *vivâ voce*).

Candidates for the Final in Surgery will be required to produce a certificate of instruction and practice in the administration of general Anæsthetics.

Students may present themselves for Examination in any of these groups (a), (b) or (c), separately or together, at any of the Examinations during their Fifth Year; but they must leave at least one of these groups until the end of their Fifth Year. Before presenting themselves for any of these groups, Students must have attended all the prescribed Courses of Instruction in the subject in which they present themselves for Examination, and paid the *Liceat* Fee (£5). Candidates in any group who fail to satisfy the Clinical Examiners are not permitted to proceed with the other parts of the Examination in which they have failed.

#### TOTAL EXPENSES OF THE REQUIRED COURSES.

I. Lectures	..	..	£67	4	0
II. Hospitals	..	..	55	13	0
III. Degrees (M.B., B.Ch., B.A.O.)	..		27	0	0
			<hr/>		
TOTAL	..		£149	17	0

#### UNIVERSITY DIPLOMAS.

Candidates for the Diplomas in Medicine, Surgery, and Obstetric Science must be matriculated in Medicine, and must have completed two years in Arts, and five years in Medical Studies.

The dates, regulations, and subjects of Examination are the same as for the Degrees.

Diplomates on completing the Course in Arts, and proceeding to the Degree of B.A., may be admitted to the Degree of Bachelor on paying the Degree Fees.

The *Liceat* fees are the same as for the Finals.

Candidates who have completed the prescribed Courses of study and passed all the Examinations will be entitled, if Graduates in Arts, to have conferred on them the Degrees of M.B., B.Ch., B.A.O.. on payment to the Senior Proctor of the Degree Fees amounting to £17. A corresponding regulation applies to the Diplomas, the Fees for which are £11. They will also obtain from the Senior Proctor a Diploma entitling them to be entered on the Register of Medical Practitioners under the Medical Act, 1886.

DIPLOMA IN PUBLIC HEALTH OR STATE MEDICINE.

The Diploma in Public Health is conferred, after examination, by the University of Dublin, upon Candidates fulfilling the conditions required by the General Medical Council.

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II.

THE NATIONAL UNIVERSITY OF IRELAND.

THE MATRICULATION EXAMINATION.

This Examination will be held in Dublin, and at certain local Centres selected by the Senate.

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DEGREES OF M.B., B.CH., AND B.A.O.

Printed Forms of application for admission to any Medical Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Each Candidate must send to the Registrar a printed Form of Application for admission, *accurately filled up and signed by the Candidate*, together with the prescribed fee.

THE M.D. DEGREE.

Candidates may present themselves for the Examination for this Degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of Candidates who shall have obtained a degree of the University in the Faculty of Arts, an interval of two academical years shall be sufficient.

Printed Forms of application for admission to this Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Candidates at this Examination must answer in the following subjects:—

I. Medicine.

II. Pathology.

The Examination in each subject consists of:—

(a) A Written Examination.

(b) An Oral Examination.

In addition every Candidate must diagnosticate at the bedside at least three Medical cases, and prescribe treatment. He must also write detailed reports on at least two cases to be selected by the Examiners, and discuss the questions arising thereon.

## THE M.Ch. DEGREE.

Candidates may present themselves for the Examination for this Degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of Candidates who shall have obtained a degree of the University in the Faculty of Arts, an interval of two academical years shall be sufficient.

Printed Forms of application for admission to this Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Candidates at this Examination must answer in the following subjects:—

- I. Surgery, Theoretical and Practical, including Ophthalmology and Otology.
- II. Surgical Pathology.
- III. Surgical Anatomy and Operative Surgery, with the use of Surgical Instruments and Appliances.

As far as practicable, there will be a Written and an Oral Examination in these branches, and in addition every Candidate will be required to diagnosticate at the bedside at least three Surgical cases, and prescribe treatment. He must also write detailed reports on at least two cases, to be selected by the Examiners, and discuss the questions arising thereon.

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 THE M.A.O. DEGREE.

Candidates may present themselves for the Examination for this Degree after an interval of three academical years from the time of obtaining the M.B., B.Ch., B.A.O. Degrees; but in the case of Candidates who shall have obtained a degree of the University in the Faculty of Arts, an interval of two academical years shall be sufficient.

Printed forms of application for admission to this Examination may be had from "The Registrar, The National University of Ireland, Dublin."

Candidates at this Examination must answer in the following subjects:—

- I. Midwifery.
- II. Diseases of Women and Children.
- III. Pathology.
- IV. The use of Instruments and Appliances.



The Examination in each subject consists of—

- (a) An Oral Examination, with practical illustrations, including use of instruments and appliances.
  - (b) A Written Examination.
  - (c) A Clinical Examination, as far as practicable.
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The Medical Regulations set out above refer only to those Students of the late Royal University of Ireland who, after the dissolution of that University, registered as Students of the National University of Ireland; they form only a portion of the Medical Regulations of the National University of Ireland. All Medical Students of the latter University, except those of the late Royal University of Ireland aforesaid, must enter one of the Constituent Colleges and go through their courses under the College Regulations. Each College holds its own Examinations, but an Extern Examiner, appointed by the Senate of the University, is associated with the College Professor in the conduct of the Examination in each subject. All particulars about the Examinations will be found in the calendars of the Constituent Colleges.

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#### QUALIFICATIONS IN STATE MEDICINE.

This University grants a Diploma in Public Health and a B.Sc. in Public Health. The Diploma may be granted to matriculated students of the University who shall have completed approved courses of study, and shall have passed the prescribed Examination, provided that it shall not be granted except to a Registered Medical Practitioner.

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### III.

#### THE QUEEN'S UNIVERSITY OF BELFAST.

#### DEGREES IN THE FACULTY OF MEDICINE.

#### STATUTES.

1. There shall be six degrees of the University in the Faculty of Medicine, viz. :—

Bachelor of Medicine (M.B.),  
Bachelor of Surgery (B.Ch.),  
Bachelor of Obstetrics (B.A.O.),  
Doctor of Medicine (M.D.),  
Master of Surgery (M.Ch.), and  
Master of Obstetrics (M.A.O.).

2. The degrees of M.B., B.Ch., and B.A.O. shall be the primary degrees in the Faculty of Medicine, and shall be conferred at the same time and after the same course of study. No student shall be admitted to the final Examination for these degrees until he has shown (1) that he is a Matriculated Student of the University, (2) that he has completed the prescribed course of study in the Faculty of Medicine extending over a period of not less than five academic years from the date of his registration as a Student of Medicine by the General Council of Medical Education and Registration of the United Kingdom, and (3) that he has passed the several examinations prescribed.

3. The Senate shall not confer the primary degrees in the Faculty of Medicine upon any person who has not attended in the University during three academic years at least the courses of study prescribed for such degrees. The Senate may accept, for not more than two academic years of the required five, courses of study pursued in any other University or School of Medicine approved by the Senate.

4. Every candidate for the primary degrees in Medicine shall be required to show that he has attained the age of twenty-one years on or before the day of graduation.

5. The degrees of M.D., M.Ch., M.A.O. shall not be conferred, nor shall any of them, until the expiration of at least three academic years, or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study or been engaged in such practical work as may be prescribed. Any of these degrees may be conferred by the Senate either (a) after an examination or (b) on the submission of a thesis or other evidence of original study or research to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

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#### THE DEGREE OF DOCTOR OF MEDICINE.

##### REGULATIONS.

1. The Degree of Doctor of Medicine shall not be conferred until the expiration of at least three academic years, or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the

Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study, or been engaged in such practical work as may be prescribed. This Degree may be conferred by the Senate either (a) after an examination, or (b) on the submission of a thesis or other evidence of original study or research, to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

2. The subjects of the examination under (a) shall be :—

The Principles and Practice of Medicine, and one other special subject to be selected by the candidate.

The special subjects shall be as follows :—

- i. Human Anatomy, including Embryology.
- ii. Physiology.
- iii. Pathology
- iv. Pharmacology and Therapeutics.
- v. Sanitary Science and Public Health.
- vi. Forensic Medicine and Toxicology.
- vii. Mental Diseases.

The examination in Medicine shall include :—

- (a) A written paper.
- (b) A commentary upon a selected clinical case or cases.
- (c) A clinical and *vivâ voce* examination.

The examination in the Special Subjects shall include :—

- (a) A written paper.
- (b) A clinical or practical and *vivâ voce* examination.

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## THE DEGREE OF MASTER OF SURGERY.

### REGULATIONS.

1. The Degree of Master of Surgery shall not be conferred until the expiration of at least three academic years, or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study or been engaged in such practical work as may be prescribed. This Degree may be conferred by the Senate either (a) after an examination, or (b) on the submission of a thesis or other evidence of original study or research, to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

2. The subjects of the examination under (a) shall be:—

- (1) Surgery, Theoretical and Practical, including Ophthalmology and Otology.
- (2) Surgical Pathology.
- (3) Surgical Anatomy and Operative Surgery, with the use of Surgical Instruments and Appliances.

There shall be both written and oral examinations in these branches, and a clinical examination upon selected surgical cases.

#### THE DEGREE OF MASTER OF OBSTETRICS.

##### REGULATIONS.

1. The Degree of Master of Obstetrics shall not be conferred until the expiration of at least three academic years, or in the case of graduates of the University in Arts or Science, of at least two academic years after admission to the primary degrees in the Faculty of Medicine. Every candidate must show that in the interval he has pursued such courses of study or been engaged in such practical work as may be prescribed. This Degree may be conferred by the Senate either (a) after an examination, or (b) on the submission of a thesis or other evidence of original study or research, to be approved by the Faculty of Medicine after an oral or other examination of the candidate on the subject thereof.

2. The subjects of the examination under (a) shall be:—

- (1) Midwifery.
- (2) Diseases of Women and Children.
- (3) Pathology in its special bearing on Midwifery and Diseases of Women and Children.

The examination shall consist of:—

- (1) A written examination.
- (2) A clinical examination.
- (3) An oral examination with practical illustrations, including those of instruments and appliances.

#### THE DIPLOMA IN PUBLIC HEALTH.

##### STATUTE.

The Senate may confer Diplomas in Public Health upon legally qualified medical practitioners who have pursued such courses of study and passed such examinations as may be prescribed: Provided always that the Regulations for such study and examina-

tions are in accordance with the rules made from time to time by the General Council of Medical Education and Registration of the United Kingdom.

#### EXAMINATIONS.

One examination will be held yearly, and will consist of two parts. Candidates may present themselves for either part separately, or for both parts together at their option.

A pamphlet giving all necessary information regarding entrance, examinations, lectures, fees, scholarships, prizes, &c., may be obtained on application to the Secretary of the University.

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#### IV.

##### ROYAL COLLEGES OF PHYSICIANS AND SURGEONS, IRELAND.

REGULATIONS FOR THE EXAMINATIONS IN MEDICINE,  
SURGERY, AND MIDWIFERY REQUIRED FOR REGIS-  
TRATION UNDER THE MEDICAL ACT, 1886.

*These Regulations are obligatory on all Candidates commencing their  
Studies on or after October 1st, 1902.*

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#### PRELIMINARY EXAMINATION.

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##### REGULATIONS.

The following are the subjects of Examination :—

- I. Latin.
- II. Any one of the following languages :—Greek, French, German, Italian, Irish, Dutch, Spanish, or any other modern language approved by the Board of Examiners.
- III. English.
- IV. Elementary Mathematics.

The Candidate, when entering his name, is required to state in what Language selected from II., and in what Authors he desires to be examined.

If he desires to be examined in Dutch, he must send, at least a month before the Examination, notice of the portions of the Dutch Authors he has selected.

1. The following works are prescribed in English till December 31st, 1914 :—

- (a) *Macaulay* - Biography of Goldsmith.
- (b) *Tennyson* - Ulysses ; Tithonus ; Dream of Fair Women.
- (c) *Lowell* - From my Study Windows—A Good Word for Winter.

2. Grammar.

3. Paraphrase.

4. History and Geography.

5. Essay.

The Examination in Mathematics embraces *Arithmetic*. *Algebra*—Definitions and Explanations of Algebraical Signs and Terms. Addition, Subtraction, Multiplication, and Division. Simple Equations in one unknown quantity. Easy Problems. *Geometry*—The subjects covered by Euclid, Books 1, 2, 3 ; and Book 4, Propositions 1, 2, 3, 4 and 5. with some additional Elementary Practical Constructions, and some Elementary *loci*. Geometrical methods other than those followed by Euclid will be accepted, such as regarding tangents as limiting positions of chords, &c. Candidates are required to provide themselves with a ruler, set square, protractor, and pencil compasses.

*N.B.*—Candidates are reminded that great importance is attached to unprescribed translation, and to composition, at all Examinations of which these subjects form a part. Preparation of the prescribed authors alone will not secure Pass marks.

The Examination shall be conducted entirely by written papers.

“Typical Examination Papers.” price 6d., post free. 6½d.. may be obtained on application to the Secretary.

#### MARKS

Marks shall be allotted as under :—

Latin	..	..	..	..	..	..	120 marks.
English	..	..	..	..	..	..	180 „
Greek, or alternative language	..	..	..	..	..	..	120 „
Mathematics	..	..	..	..	..	..	120 „

1. Candidates who pass in all subjects, and are awarded seventy per cent. of the total marks obtainable, are placed in a separate list, and are considered to have passed with “Honours.”

2. A Candidate may get credit for every subject in which he

obtains pass marks, provided he passes in all four subjects at not more than two Examinations. He can offer himself for re-examination as often as may be necessary to satisfy this condition.

3. Candidates who hold the complete Pass Certificate of the Middle or Senior Grade of the Intermediate Education Board of Ireland may complete the Preliminary Examination under the Conjoint Board by passing in any subject or subjects required by the General Medical Council which are not passed at the Intermediate Examination.

4. The fee for the first admission of a Candidate to the Examination shall be Two Guineas. Fee for each subsequent admission One Guinea.

#### PROOF OF AGE.

No Candidate shall be admissible to the Preliminary Examination who does not produce evidence of having attained the age of sixteen years on or before the first day of the Examination.

#### DATE OF PRELIMINARY EXAMINATIONS FOR 1914.

Wednesdays—March 18th, June 17th, October 7th.

The Examinations are held at the Royal College of Physicians, Kildare Street, Dublin, commencing each day at 10 a.m.

#### PRELIMINARY EXAMINATIONS ACCEPTED BY THE COLLEGES.

All Examinations in General Education recognised by the General Medical Council (a list of which will be found in the Register of Medical Students) are accepted by the Colleges in lieu of the Preliminary Examination held by them. Information as to such Examinations may be obtained at the Branch Medical Council Office, 35 Dawson Street, Dublin.

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#### PROFESSIONAL EXAMINATIONS.

Every Candidate is required to pass four Professional Examinations.

Candidates will be admissible to the various Examinations as under :—

First Professional Examination, not earlier than the end of the first winter session. (Fee is £15 15s.)

Second Professional Examination, not earlier than the end of the second winter session. (Fee is £10 10s.)

Third Professional Examination, not earlier than the end of the third year of medical study. (Fee is £9 9s.)

Final Professional Examination, not earlier than the end of the fourth year of medical study ; but it cannot be completed till the end of the fifth year of medical study.

No Candidate shall be admitted to any Examination within three months of his rejection in the subjects of that Examination by this or any other Licensing Body.

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#### FINAL PROFESSIONAL EXAMINATION.

The Fee for this Examination is £6 6s.

The subjects of the Final Professional Examination are :—

Division A.—Medicine, including Fevers, Mental Diseases, and Diseases of Children.

Division B.—Surgery, including Operative Surgery and Ophthalmic Surgery.

Division C.—Midwifery and Gynæcology, Vaccination, and Diseases of New-born Children.

Before admission to the Final Professional Examination, every Candidate must have passed in the subjects of the Third Professional Examination.

Candidates are recommended to present themselves in all the subjects of the Final Examination at one time ; but a Candidate at or after the end of the fourth year may present himself in any one of the Divisions A, B, or C, provided he has completed his Curriculum as far as concerns the Division in which he presents himself. The Examination in at least one of the Divisions must be deferred till the end of the fifth year.

Before completing the Final Examination a Candidate must have passed four years in Medical Studies other than those for the First Professional Examination.

Candidates must have passed in all the subjects of the Final Examination before any Diploma can be granted.

Each Candidate before receiving his Diplomas must produce a Registrar's Certificate, or other satisfactory evidence, that he has attained the age of twenty-one years.

#### EXEMPTIONS.

Candidates who have passed in any of the required subjects at Examinations conducted by any Licensing Body recognised by the Royal College of Physicians and the Royal College of Surgeons may, at the discretion of the Committee of Management, be



exempted from further examination in such subjects under these regulations.

REGULATIONS FOR CANDIDATES FOR THE DIPLOMA  
IN PUBLIC HEALTH.

Stated Examinations for the Diploma in Public Health commence on the first Monday of the months of February, May, July, and November.

A special Examination for the Diploma may, at the discretion of the Committee of Management, be obtained—except during the months of August and September—on application at least one fortnight before the date of the proposed Examination, and payment of £15 15s. in addition to the ordinary Fees mentioned below.

Every Candidate for the Diploma in Public Health must be a Registered Medical Practitioner. He must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, Dublin, one fortnight before the Examination, and lodge with him a Testimonial of Character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh, together with certificates of the prescribed course of study.

Candidates registered as Medical Practitioners or entitled to be so registered after January 1st, 1890, must comply with certain Resolutions and Rules, adopted by the General Medical Council.

The Fee for the Examination is Ten Guineas, which must be lodged in the Ulster Bank, Dublin, to the credit of the Committee of Management. Fees are not returned to any Candidate who withdraws from, or is rejected at, any Examination. The Fee for re-examination is Five Guineas.

The Examination for the Diploma in Public Health comprises the following subjects:—Chemistry and Physics, Engineering and Architecture, Meteorology, Sanitary Law, Vital Statistics, Hygiene, Bacteriology.

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V.

APOTHECARIES' HALL IN IRELAND.

The Primary, Intermediate and Final Examinations are held four times a year—viz., commencing the first Monday in January, April, July, and October.

The Final Examinations are held quarterly.

The Fees payable for each Examination are as follow :—

Primary Professional	..	..	..	£5	5	0
Intermediate	„	..	..	10	10	0
Final Examination	..	..	..	15	15	0

A Candidate is allowed for each Professional Examination which he has completed at any other Licensing Body, except the Final.

Ladies who comply with the regulations will be admitted to these examinations.

Candidates may be admitted to a Special Examination, under special circumstances, which must be laid before the Examination Committee. If the Candidate's application be granted, an extra fee of Ten Guineas over and above the full fee is required.

Candidates already on the Register will receive the Diploma of the Hall on passing an Examination in Medicine, Materia Medica and Pharmacy.

Each Candidate, before receiving his Diploma, must produce evidence that he has attained the age of twenty-one years.

Licentiates of this Hall are entitled to enter as Candidates for the Fellowship of the Edinburgh Royal College of Surgeons.

All information relative to the Examinations may be obtained from the Registrar of the Apothecaries' Hall, 40 Mary Street, Dublin.

## VI.

### DENTAL EDUCATION AND EXAMINATIONS IN IRELAND.

#### UNIVERSITY OF DUBLIN.

##### DEGREES IN DENTAL SCIENCE.

##### *Combined Arts and Dental Curriculum.*

The University of Dublin grants the degrees of Bachelor and Master in Dental Science.

Either of these qualifications entitles the holder to be registered as a licensed Dental Practitioner.

In order to obtain the Degree of Bachelor (B. Dent. Sc.), Candidates must have completed the course for the Arts Degree (B.A.) of the University and have spent at least four years in the School of Dentistry. The Degree of Master in Dental Science (M. Dent. Sc.) is awarded after a further examination, and cannot be taken until the end of a fifth year of study.

The Dental and Arts Courses may be taken separately or concurrently.

The Degree of Bachelor in Dental Science is conferred on Students who have completed the above Courses and Examinations, and passed the B.A. Degree Examination in Ethics and English Composition.

The total fees in order to obtain the degree of Bachelor in Dental Science are :—

Entrance fee, Arts fees (4 years), and fee for B.A. Degree .. .. .	£83	4	0
Lectures, Laboratory, and Hospital fees	186	18	0
Examination fee .. .. .	5	0	0
Fee for Degree . . . . .	10	0	0
	<hr/>		
	£285	2	0

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#### MASTER IN DENTAL SCIENCE.

Candidates for the Degree of Master in Dental Science must be Bachelors in Dental Science of at least one year's standing. They will be required to pass an examination in Pathology and Bacteriology, and either to carry out Dental work of an advanced character to the satisfaction of the Examiners, or to present a thesis to be approved of by them, giving evidence of original research on some subject connected with Dentistry.

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#### ROYAL COLLEGE OF SURGEONS IN IRELAND.

##### DIPLOMA IN DENTAL SURGERY.

The Royal College of Surgeons in Ireland grants Diplomas in Dental Surgery under revised conditions adopted by the Council on November 25, 1909, of which the following is a synopsis :—

The Candidate must be twenty-one years of age before being granted the Diploma.

The Candidate must have passed three Examinations.

1. Preliminary (identical with the Medical Preliminary).
2. First Dental. (This Examination is much the same as the Second Conjoint Professional.)
3. Final Dental Examination. Candidates are examined in General Pathology, Medicine and Surgery ; Dental Surgery, and Dental Pathology, with the *Materia Medica* and Therapeutics applicable to Dental Surgery ; Dental Mechanics and Metallurgy ; Orthodontia.

Large reductions in the Special Certificates required are made in the cases of qualified Medical Practitioners.<sup>a</sup>

As regards Dental Hospital practice, full information is contained in the Calendar for 1913-14 of the School of Dentistry in connection with the Incorporated Dental Hospital of Ireland, Lincoln Place, Dublin. The Calendar may be obtained on application to the Dean.

<sup>a</sup> Fuller particulars can be obtained by application to the Registrar, Royal College of Surgeons, St. Stephen's Green, Dublin.

#### CANCER RESEARCH IN DENMARK.

WHAT may turn out to be a research of tremendous importance has been published lately by Professor Fibiger, of Copenhagen, in the *Berliner klinische Wochenschrift*. This observer a long time ago discovered in some rats certain papillomatous-looking tumours of the stomach which proved, on microscopical examination, to be cancerous, and also to contain in their interior parasitic worms of the nematode genus. For some time he was unsuccessful in the search for further material of the same sort to work on, but at last he came across the same condition in rats from a sugar refinery. Two-thirds of these animals harboured the nematode worms, and nine out of forty had also the peculiar stomach growth in association therewith. Fibiger tried by artificially infecting rats with the worms to reproduce the stomach cancer, but failed. Thinking that this might indicate an intermediate host, he hit upon the cockroach, which insect existed in large numbers at the sugar works. By feeding rats on these cockroaches he produced thirty-six cases of this particular stomach-tumour out of fifty-seven rats. In a few of the cases secondary growths also appeared, and these did not contain nematodes. The hypothesis of an intermediate host was further proved by feeding cockroaches on the fæces of the rats wherein the ova of the worms are contained. It is still matter for speculation whether these observations prove that any irritant may set up cancerous tissue changes; or whether they point to a specific cancer parasite. If the latter, further research with this clue to help should result in its discovery.—*The Hospital*, June 21, 1913.

# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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NOVEMBER 1, 1913.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. XIV.—*Examinations, Examiners, and Examinees.*<sup>a</sup>  
By SIR WILLIAM OSLER, Bart., M.D., F.R.S.; Regius  
Professor of Medicine in the University of Oxford.

IN every department of human knowledge men are asking guidance in the solution of a world-old problem—how to train the mind and heart and hands of the young. The past and the present are in the melting pot—the moulds are ready, and all await with eagerness the result of the casting, and none with greater eagerness than our own profession. For we are in a quandary. Naturally conservative, we are bewildered by the rapidity of a forced progress and change. There is a new outlook in every department—not alone in the fundamentals of Science and in methods of practice, but in the relations of the profession to the public and to the State. The actual care of the sick, once our sole duty, is now supplemented by such a host of other activities, social, scientific, and administrative, that an ever-increasing number of our members have nothing to do with patients as such. But

<sup>a</sup> An Introductory Address delivered at the opening of the Winter Session at St. George's Hospital Medical School on October 1st, 1913.

the chief difficulty is the extraordinary development in every subject of the curriculum—a new anatomy, a new physiology, a new pathology, new methods of practice, to say nothing of the phenomenal changes in physics, chemistry, and biology. Everywhere increased complexity and mind-burdening terminology. What is the teacher to do? And more important, What can the poor student do, confronted with so much new knowledge and a Rabelaisian onomatomania? How simple was a cell in the days of Schwann and of Schultze—nucleus, nucleolus, protoplasm, and cell membrane; to-day in one of the very briefest of recent descriptions I counted 40 new names, not one apparently superfluous. Turn to the index of a new treatise in embryology, to a work on immunity, or to a text-book on neurology, and you will appreciate the extraordinary complexity of the diet of the modern student. Even the titles of the journals startle, and to read intelligently an article in the *Zeitschrift für Chemotherapie* or in the new archives dealing with immunity and metabolism requires a special education.

The truth is, we have outrun an educational system framed in simpler days and for simpler conditions. The pressure comes hard enough upon the teacher, but far harder upon the taught, who suffer in a hundred different ways. To help you to realise this pressure and to suggest measures of relief are the objects of this address.

#### EXAMINATIONS AND THEIR RELATIONS TO EDUCATION.

What a student knows and what he can do—these are judged by examinations, oral, written, and practical. Tests of progress, tests on behalf of the public of fitness to follow certain callings, they have always loomed large in educational systems. At the best, means to an end—at the worst, the end itself—they may be the best part of an education or the worst—they may be its very essence or its ruin. Helpful if an integral part of the training, they may, and do, prove the intellectual ruin of many good

men. Long practice as an examiner—year by year since 1875—in many subjects, in many methods, and in many places, an intimate relation with a large body of students, and a keen interest in medical education give me the assurance, if not of wisdom, at least of experience. Moreover, at the old universities survives a mediæval tradition of the omniscience of the professor, and with my brother Regius of Cambridge I enjoy the rare privilege of examining in every subject in the curriculum, from organic chemistry to obstetrics, a privilege with this advantage—it enables me to see the work of many examiners.

Regarding examinations, I have one question to ask—Are they in touch with our system of education? and one suggestion to make—That from the day he enters the school, in laboratory, class-room, and wards, the work of the student should count, and count largely, in the final estimate of his fitness.

*The Influence of Examinations on Medical Education.*—Apart from a general feeling of dissatisfaction with the present system, two things strongly suggest a negative answer to the first question. As a discipline of mind and memory examinations play a leading part in all educational schemes. How they may finally control and sterilise the mind of a nation may be read in the story of China. For this has come about, not from lack of brains, not from any failure to appreciate the value of learning, not from any defect in the system itself, which is more rigid and exacting than anything in Western life, but from the blighting influence of an education directed to a single end, the passing of examinations. To test an education by its practical results at the table is to sin against the spirit of the Greeks, who first taught the fundamental lesson that the pursuit of knowledge to be productive must be disinterested. Nothing is more fatal to a true intellectual training than a constant preoccupation with its practical results. To be of any value an education should prepare for life's work. To train the senses for observation and the mind for reasoning, and to

acquire a knowledge of the human machine and its disorders, a man spends five or more years at a medical school. Given a knowledge of the sciences on which it is based there is no more fascinating study, since Medicine is the only one of the great professions engaging equally head and heart and hand. In its subject matter there is everything in its favour, and it is the easiest possible thing to carry out John Locke's primary canon in education—arouse an interest. With our present methods there is scarcely a subject which cannot be taught easily, and so many of them are practical, manipulative, and not at all difficult to acquire. To an inquisitive mind the study of medicine may become an absorbing passion full of fascinating problems, so many of which present a deep human interest. In the long category of man's conquests none are more brilliant than those with which a teacher of Medicine can inspire his class. It is hard indeed to name a dry subject in the curriculum. And yet in an audience of medical students such a statement nowadays raises a smile. Why? Because we make the examination the end of education, not an accessory in its acquisition. The student is given early the impression that he is in the school to pass certain examinations, and I am afraid the society in which he moves grinds this impression into his soul. Ask *at* what he is working, and the student will answer *for* his first M.B. or his final. The atmosphere is Chinese, not Greek, and too often the one aim is to get through. We have become quite shameless about it, and practically admit a failure in our teaching when we advertise special tutorial classes for the different examinations, and consign a large proportion of our pupils to the tender care of "grinders"—and to no purpose! The spirit is taken out of instruction, and teacher and taught alike go down into the valley of Ezekiel—where they stay among the dry bones.

*The Number of Rejections.*—And a second circumstance proclaims loudly how out of touch are our tests with our teaching. The qualifying examinations of this



country are well organised and admirably conducted, and, speaking by the book, I may say that nowhere is the knowledge that a man can use so freely tested in the laboratory and at the bedside. And it has been so for several generations, yet year by year the General Medical Council issues a report that gives any teacher food for serious thought, as it demonstrates, beyond peradventure, how completely out of touch he or the student, or both, has got with the examiner. A medical school is a human factory, turning out doctors as the finished product at the end of five years of careful preparation and fitting of the mental machinery. Failure is incidental to every human effort, and even the Rolls-Royce Company turns out cars from their shops that fail in the tests, but not many. But from our shops, after five long years or even more, we send our medical motors to be tested for the road by the official experts, and nearly one-half are declared to be defective and sent back to the shops. Use and Wont, those "grey sisters," have so dulled the edge of this bitter experience that we have become accustomed to conditions nearly insupportable. Year by year for a generation the returns in the two great final subjects, the most attractive and the easiest to teach, show from 35 to 45 per cent. of rejections.

To the question much thoughtful attention has been given, and in the General Medical Council so far back as 1896 Mr. Pridgin Teale introduced a motion with the following preamble: "That the present system of accumulated examinations and the enormous increase in the number of rejections resulting from it are not only unjust to the student but damaging to medical education." Mr. Teale pleaded wisely and forcibly for a reduction of the examinations and for the substitution in certain subjects of certificates from the teachers and class examinations.

The Council reports show that the percentage of rejections at the final examinations has progressively risen from 12.4 in 1861 to 22.2 in 1876, to 34.8 in 1886, and to

41.9 in 1895. Mr. Teale, who quotes these figures, remarked that with the multiplication of examinations the more fatal do they become. The figures for the five years 1908 to 1912 show a continuation of the upward movement. Take the great final subjects, medicine and surgery, at the three Boards before which we may say the average student presents himself. I will put the collected figures as concisely as possible. The English Board: medicine—passed 1,842, rejected 1,135, percentage 38.12; surgery—passed 1,821, rejected 1,506, percentage 45.23. Scotland: medicine—passed 489, rejected 653, percentage 57.18; surgery—passed 492, rejected 731, percentage 59.77. Ireland: medicine—passed 322, rejected 231, percentage 41.77; surgery—passed 326, rejected 239, percentage 42.30. In the five years a total of 4,572 students were examined at the Conjoint Boards of the three kingdoms in medicine, of whom 2,019 were rejected, a percentage of 44.16. Of 5,105 examined in surgery 2,475 were rejected, a percentage of 48.48. Take for comparison the three universities—Edinburgh, Oxford, and Cambridge—for the five years ending 1912. At the Scotch capital there were 985 examined in medicine, of whom 267 were rejected, 27.10 per cent.; in surgery 974, of whom 317 were rejected, 31.52 per cent. In Oxford, where the three final subjects are taken together, it is impossible to say upon which subject a man came down, but in the final examination of 135 candidates 47 were rejected, a percentage of 34.81. At Cambridge during the five years, in medicine of a total number of 519, 365 passed and 154 were rejected, a percentage of 29.67; and in surgery of a total of 603, 233 were rejected, a percentage of 38.64.

There is not so much difference, you notice, between what may be called the pass men of the Conjoint Boards and the men entering the universities, and I do not believe there is any special difference in stringency between the Oxford and Cambridge examinations and those of the London Conjoint Board. There are two other

examinations which the *élite* of the student body affect. How do they stand? All regret that in London only the select and the elect attempt to get the degree of their own University. And it is difficult! Twice in the past five years more students have failed than have passed the final subjects for the M.B. The total figures for the period are: of 1,061 candidates examined 481 were rejected, a percentage of 41.01. And, lastly, to one other qualification, greatly prized, sought only by the very best men, the Olympic athletes of their classes, I will refer—the F.R.C.S. Eng. Consider, please, how carefully this group is trained—only the very best venture to compete, and they have a diet of which the intellectual calories are gauged with surpassing accuracy. There is no doubt they are our very best, the picked steeplechasers of our stables. How do they fare? I am almost ashamed to read the figures. Your ears have tingled already, but only those hardened by familiarity will not be shocked at the demonstration of such a chasm between education and examination. Of 1,186 men who have tried for the primary Fellowship examination of the Royal College of Surgeons during the past five years 821 were rejected, 69.45 per cent. Of 680 men at the final Fellowship examination 294 were rejected, 43.23 per cent. The high-water mark of examination futility was reached in May, 1912, when of 118 candidates for the primary Fellowship only 31 were approved. These are picked men, our very best students, the most carefully prepared, who rarely attempt the trial without months of extra study and attendance upon grinding classes. Of the ploughed I have known personally, many seem to have been over-trained, others had spent their time in unprofitable original research; but all, passed and plucked alike, I maintain, are of the highest type of our students, whose calamities proclaim to the world the breakdown of our present educational system.

The failure is general all along the line and in all grades—at the licensing bodies, at the older Universities of Oxford and Cambridge, at Dublin and Edinburgh, at

South Kensington, and at Lincoln's Inn-fields with singular uniformity all tell the same tale. There have been uneasiness and talk, but too much self-satisfied indifference, and even after the famous rout for the primary Fellowship in May last year I am told that satisfaction was expressed with the scope and method of the examination! Satisfactory to the examiners, perhaps, though I doubt it; but most unsatisfactory to the teachers, most painful to the students, and by no means a pleasure to the public as represented by the parents.

#### HOW MAY RELIEF BE OBTAINED?

I venture to offer a few suggestions. First, by simplifying the curriculum to give the students more time. Allow the teachers a free hand in the matter of systematic lectures. Let them be reduced to a minimum or abolished altogether. One advantage they have—subjects may be dealt with which cannot possibly be illustrated in the wards. But such may be better presented in the "Seminar" form, the senior students arranging the subjects among themselves under a skilled assistant. London students still have too many lectures in medicine and surgery to attend; Scotch students many more. I do not speak without experience when I say that the subject of medicine, for example, may be taught without the set lecture. The lecture has its value, a precious one from some lips—a Watson's or a Trousseau's; but its day has gone to give place to other methods better adapted to modern conditions. Think of the saving of time if the lecture list was snipped in half, or if the lecture was limited to a few subjects, such as physiology and pathology, and if it were an offence for a senior student to be seen in a lecture-room!

Then let us boldly acknowledge the futility of attempting to teach all to all students. Burn the anatomical fetish to which we have sacrificed long enough, and to our great detriment. Just glance at "Cunningham's Anatomy"—1,465 pages, many in small type, not one of

which is without a water-jump for the first Grand National of the medical student. It is barbaric cruelty with so much ahead to burden the mind with minutiae which have only a Chinese value—a titanic test of memory. To schedule a minimum of the essentials should not be difficult, once the great principle is acknowledged that in all departments of the curriculum only a few subjects can be mastered thoroughly. I am afraid the secret of the tragic tale I have related lies in a quotation which Socrates made to Alcibiades :—

Full many a thing he knew,  
But knew them all badly.

I acknowledge the difficulty of defining in different subjects a minimum of the essential, but it is not insuperable, and such schedules are issued in some universities.

Secondly, relief may be obtained by giving credit for work done throughout the course, changing the present system of “ signing up ” for one of reports by demonstrators and assistants on the character of the work done by each student. Let all who teach examine. Let education and examination go hand in hand. Let the day’s work tell from the moment a student enters the school. Everyone from the junior demonstrator who supervises the students’ first dissection to the professor—all should weigh while teaching. Day by day as I see John Smith in the wards, and read his notes, and watch his clinical work and discuss the features of the patients, or as he narrates his case to the class about the bed and he and I have a Socratic dialogue, instruction and examination go hand in hand, and in such a way that at the end the formal tests should be but an amplification, an extension, and an inclusion of the scores of examinations which have been part of the routine of his life. Perhaps at present Utopian, this plan will be feasible in a new and reorganised generation ; indeed, it is feasible now in self-contained universities. Once accept the principle that instruction and examination should go hand in hand and the difficulty is solved. The returns are automatically passed on to the

head of the department. Yes, but someone will say, "Take the judgment of a group of young teachers? It is absurd!" Not a bit. They see more of the students, come into closer contact, and are better able to judge of the quality of their work than the professor, and much more than any outside examiner. According to the character of his work a student should acquire much or little merit, and should be able to take to the examination table enough to pass, or at any rate to make the final test in any subject *pro formâ*. Where the classes are small, as in many of the provincial universities, this plan could be easily worked. I have had practical experience of it and came to the conclusion early that the judgment of the man who was fit to teach could be taken in estimating the progress of the student's education. And the system is being adopted. A few months ago I went into the beautiful clinical and pathological laboratory of the new Toronto General Hospital, and in one room I found an examination in pathology going on. The candidate had a set of cards in his hands, on each of which were written the details of the *post-mortem* examination he had made with a careful discussion of the case. Pass or pluck really depended on the cards a man held. He brought his marks with him—instruction and examination had gone hand in hand. I was delighted to hear from Professor MacKenzie that the system, introduced at McGill by my pupil and successor, the late much lamented Wyatt Johnston, had proved very successful in both Canadian schools.

Thirdly, simplify the examinations. Cut off some of the written papers. In the final subjects the long report on cases, the bedside *vivâ*, supplemented if need be by a special "oral," will give examiners the necessary knowledge of a candidate's mental outlook. If they will consider, not how much he knows, but how he knows what he knows, the long "written" is superfluous. As one watches a man handle a patient it is easy to tell whether or not he has had a proper training, and for this purpose fifteen minutes at the bedside are worth three hours at

the desk. We must substitute for the quantitative estimate the qualitative, and judge the student as much by manner as by matter.

Fourthly, when possible, evidence of original work should be substituted for examination. Think of the stimulus to British surgery if, in place of the Egyptian tyranny to which our best students now slavishly bow, the President and Council of the Royal College of Surgeons selected for the Fellowship each year the 15 or 20 of the men under thirty who had distinguished themselves most highly in surgical research. It would change the mental attitude of the younger generation, instil the spirit of Hunter into its members, and prevent the paralysing mental sterility that overtakes many good men who now spend precious plastic years in the dry drudgery of examination details.

Fifthly, compel no student to pass an examination twice in the same subject. At present brain and pocket alike suffer, and the burden could be lightened by a free reciprocity between the examining boards.

#### EXAMINERS AND THEIR DUTIES.

Men are usually very superior to the system in which they work, and so it is with examiners. After what has been said you may be disappointed not to hear a tirade against them; but I have had a singularly happy experience with my fellow inquisitors, whom I have found, as a rule, among "the mildest-mannered men that ever scuttled ships or cut throats." The two extreme types, the metallic and the molluscoid, illustrate inborn defects of character. The aggressive, harsh nature comes out strongly at the table, and the hard face, with its "what-the-devil-do-you-know" expression, sends a chill to the heart of the candidate, and it reaches his bone marrow when the first question relates, perhaps, to a serious mistake in his paper. Imagine the mental state of a poor chap greeted with "What did you mean by saying that the ciliary muscle is supplied by the pneumogastric

nerve?" And the worst of it is that the metallic examiner may have no sense whatever of his failings, but is rather apt to pride himself on a keen appreciation of his duties. I remember a hard-faced inquisitor who took, so it seemed, the greatest pleasure in torturing his victims—dwelling with fiendish glee on all the small mistakes he could find, criticising the spelling, and ending on one occasion with the cheerful remark: "Mr. Jones, who taught you to write?" That evening, talking about examinations, I said in a joking way: "Judge Jeffreys, you are a heartless brute; I wonder some student has not assaulted you." He took it very much to heart, and I had a long letter about the great responsibility of the position and the rigid sense of duty he felt towards the university and the public. And the facial expression of the fellow examiner is not without importance, whether sympathetic, neutral, or antagonistic. One co-examiner always had a sardonic expression, a sort of Arian grin, plainly saying: "Well, you are a hopeless idiot!" The examination room may have the atmosphere of a cold storage chamber, and a student knows at once the type of man with whom he has to deal.

At the other extremity is the invertebrate examiner, so soft and slushy that he has not the heart to reject a man. It is a variety not often met with in this country, but it exists. Sympathy with the student and a strong feeling for his position may completely overmaster the sense of duty to the university and to the public. A former colleague was made unhappy for days if he had to reject a candidate. For some years I sat on an examination board with an elderly professor, a man of great force of character and ability, who never gave a candidate less than 80 per cent. of the possible marks. In the case of the most hopeless duffers with 20, 30, or 40 per cent. in other subjects he would call out "pass." He was a great grief to me, as well as a mystery. At the last meeting which he attended as an examiner he tossed his book to me with a malicious smile. There were 116 candidates,



not one of whom he had rejected, and not one of whom had less than 80 per cent. !

Between the metallic and the molluscoid is the large group of sensible examiners who try to put the candidate at his ease and to find out what he knows in a simple, sympathetic manner. But in any case the examiner is apt to take an unfair advantage of his position, and quite unconsciously. A specialist to whom the facts of his subject have become familiar and ingrained is apt to forget the years that have given the facility and the knowledge ; and he may wonder when a man hesitates over an Argyll-Robertson pupil or mistakes a pericardial rub for an aortic insufficiency murmur. The most grievous mistake of the examiner is to regard the candidate as his mental equal and to expect from him knowledge of the same quality as that which he possesses, ignoring his long years of study and the short years into which the student has had to cram the knowledge of a dozen subjects.

Examining is often a heart-breaking task, with little to relieve the monotony of the long-drawn papers. It is distressing to meet with abysmal ignorance of elementary facts, and to realise with sorrow how many more minds are constructed as sieves than as sponges. But there are compensations, and who is there among us who does not appreciate Comte's statement that there were few more delightful experiences than the sweet and softened feeling when a young man's examination was thoroughly satisfactory? But it is much nicer to watch the gradual growth of a student's knowledge and to get it out retail day by day than to drag it out wholesale at set times. One thing is certain—the best we have should be devoted to our duties as examiners. Men should give their whole time to the business when at it. Much-engaged men should not be chosen, and to examine in the evening, after a hard day's work, is to handicap the candidates. We shall no doubt come to a time when professional examiners will be appointed by the General Medical Council to act as associates and assessors to the professors. That it is not

a task lightly or inadvisedly undertaken the returns I have given indicate only too clearly. Not that we can lay at the doors of the examiners the responsibility for the lamentable state of affairs to which I have referred. No doubt there are unduly severe examinations, and there are examiners with hearts as hard as pieces of the nether millstone, but these are exceptions.

#### THE EXAMINEE AND HIS POSITION.

When quoting figures I purposely dealt chiefly with the results of the final examinations, and I am sure the feeling uppermost in your minds was one of sympathy with the hundreds of young men who, after five years of hard work, fail in ordinary tests, and this brings us to a brief consideration of the examinee and his position. In two respects he is an unfortunate victim. Of one I have already spoken—the enormous development in the subjects of the curriculum; and here, I am sure, lies his serious difficulty. It is the case of a quart measure and a pint pot. Intellectual dyspepsia from cramming is at the bottom of his trouble. It is like a diet of hot bread, which a man can stand at first, but, as Lowell says in the “Fable for Critics”—

By gradual steps he  
Is brought to death's door by a mental dyspepsy.

Another cause of the widespread rejections is defective preliminary education; but let me emphasise the fact that the percentages of rejections are nowhere higher than among the very best students—*e.g.*, Cambridge men, among whom in some subjects more than 50 per cent. are rejected. I do not deny that much could be done to relieve the present stasis if all medical students began thoroughly trained in physics, chemistry, and biology. In this respect matters are improving year by year. And we should be more honest with the feeble ones, not fitted either by breeding or by pasture to pursue their studies,

who should be asked early to withdraw. It is infinitely kinder to stop a man in his career than to allow him to struggle on painfully and submit to the humiliation of half a dozen or more rejections.

The conclusion of the matter is, the student needs more time for quiet study, fewer classes, fewer lectures, and, above all, the incubus of examinations should be lifted from his soul. To replace the Chinese by the Greek spirit would enable him to seek knowledge for itself, without a thought of the end, tested and taught day by day, the pupil and teacher working together on the same lines, only one a little ahead of the other. This is the ideal towards which we should move. The pity of it all is that we should have made an intolerable burden of the study of one of the most attractive of the professions, but the reform is in our own hands and should not be far off. A paragraph in an address of the late Dr. Stokes contains the pith of my remarks : " Let us emancipate the student, and give him time and opportunity for the cultivation of his mind, so that in his pupilage he shall not be a puppet in the hands of others, but rather a self-relying and reflecting being."

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ART. XV.—*Tests for Liver Function.*<sup>a</sup> BY G. E. NESBITT, M.D., F.R.C.P.I., Assistant Physician to the Richmond, Whitworth and Hardwicke Hospitals, Dublin.

IN bringing forward this subject I wish to ask for such indulgence as may be granted to a " preliminary communication " for the reason that the material and opportunities at my command have not yet been sufficient to enable me to form a final judgment as to the value of these tests.

Amongst similar investigations of the functions of various organs they occupy a prominent place in routine clinical examination at the Continental schools. But,

<sup>a</sup> Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, May 16, 1913.

with the exception of an occasional case of special interest, I believe that no such systematic methods have been adopted here.

Considering the number and complexity of its various functions, the liver works in a curiously silent and unobtrusive fashion. Beyond a few conditions where very gross evidence of disease is apparent, we have little information at hand as to how this organ is conducting any, or all, of its vital duties. This difficulty is quite obvious in text-book as well as at the bedside, where we find full descriptions of organic diseases of diverse types, but little or nothing as to the disturbance of function arising therefrom, and often nothing at all concerning "functional" as opposed to "organic" affections. It is a firmly-rooted idea with, at any rate, the valetudinarian layman that many and varied symptoms are due to "the liver being out of order," and though we are apt to discredit the idea in the majority of cases, it is not difficult to imagine, on brief reflection, that the view is not entirely without foundation.

Murchison's classical work on this subject is probably still unsurpassed, but it may be questioned whether he has not gone too far, and attributed to derangement of liver function symptoms which should be ascribed to interference with other organs.

The four tests which I have employed, and which I shall now describe, will be seen to depend upon three important functions of the liver—*i.e.*, metabolism of sugars, the assimilation of protein-substances such as amino-acids, and the excretion of waste bile pigments. In some cases these tests have been founded on recent developments of physiology, and, it may be, will prove at variance with some hitherto established views. In the first three, at any rate, the principle is simple. Certain substances are administered to the patient, and the subsequent effect on the urine is noted.

*Lævulose and Galactose Tests.*—These sugars have been adopted instead of glucose in examining for liver

function, in consequence of the fact noted by Bauer, of Vienna (to whom I am indebted for my first acquaintance with these and numerous other suggestive methods), that considerable tolerance for glucose can exist with marked organic liver disease. When we remember, on the one hand, that the tissues may be capable of destroying even an unusually large amount, while, on the other hand, disease of the pancreas will cause its too ready appearance, the uselessness of glucose as a pure liver test is apparent. Bauer further noticed that in a case of cirrhosis with glycosuria the sugar was *not* glucose but galactose, and in this case, on stopping milk in the diet, the sugar disappeared from the urine. The reason may be that both galactose and lævulose are normally altered in the liver to glucose before conversion into glycogen, and if the liver is not healthy this conversion cannot occur. Whether this be true, clinical evidence shows that these sugars will pass through where glucose is retained.

*Lævulose Test.*—100 grm. of lævulose is given on an empty stomach in the morning in tea, and the urine for some hours examined by Fehling or other sugar tests. Any trace of sugar indicates liver disturbance of some kind, though the test is useless for the purpose of differentiating the disease. It is an extremely delicate test, but has two objections—the amount of sugar given is excessive, and in quite a number of cases results in vomiting or diarrhœa. This may be got over to some extent by washing out the bowel the previous night and giving a dose of opium; but this objection seems too great for its use as a routine test. Secondly, it is positive in about 10 per cent. of normal cases, and alone has not a great clinical value.

*Galactose Test.*—40 grm. of galactose are given in the same way as before. The dose is smaller, not very sweet, and, as I have ascertained by personal experiment, quite easily taken. The urine is collected hourly, and in normal cases will show the presence of sugar for at most one or two hours. Total output under 1 grm. In certain cases of liver disease—*i.e.*, cases where general cell as

apart from local lesions are present—galactose is eliminated for six or more hours, the total quantity reaching in some cases as much as 20 grms.

For example, the test will be found positive in such cases as cirrhosis of all varieties, toxic forms of icterus (including catarrhal jaundice, now regarded as a toxic affection of the liver), degenerative conditions, such as phosphorus and chloroform poisoning and acute yellow atrophy, general syphilitic disease of liver, and fatty degeneration. Further, and an important point in differential diagnosis, a positive result may be frequently obtained before physical signs of any kind develop. On the other hand, local lesions in the liver give a negative result—*e.g.*, obstructive icterus, tumours of all kinds, and two conditions where one perhaps might have expected otherwise, chronic passive congestion and amyloid disease. The only objection that I have met with in using the test is that pure galactose is somewhat expensive. One might, however, substitute lactose in a larger dose, owing to the splitting in the intestine of this sugar into glucose and galactose.

*Amino-acid Test.*—This test, though somewhat more troublesome to carry out, has been of most interest to me, and has indeed, I believe, given the most satisfactory results. To give an adequate description of its *rationale* involves an excursion into the current theories and developments of the physiology of protein metabolism, which extremely interesting though it may be, I trust I may be pardoned for omitting on this occasion. In brief, it depends on the fact that after a dose of amino-acids they appear in but small traces in the urine in normal cases, whereas a substantial quantity can be recovered from cases with liver disturbance. The experiment consists in giving 10 gm. of glycocoll or amino-acetic acid ( $\text{CH}_2\text{NH}_2\text{COOH}$ ), one of the simplest of the amino-acids or end-products of protein digestion. Normally this causes no increase in the urinary output of amino-acid (as I have had the satisfaction of demonstrating in my own

person), but in disturbed conditions of liver function a substantial increase (even up to 5 grm.) may be found. The method of estimating is slightly tedious, and is a modification of Henrique's. As regards its accuracy I was extremely gratified to find, on checking it with a known quantity of amino-acid, that it left nothing to be desired, the very small discrepancy being quite explicable by my own want of skill in technique.

50 c.c. of urine are taken from a twenty-four hours specimen, 20 c.c. of 95 per cent. alcohol added to prevent undue frothing, and 30 c.c. S.S.  $\text{Ba}(\text{OH})_2$  solution. By the pump  $\text{NH}_3$  is drawn over and caught in 25 c.c. deci-normal  $\text{H}_2\text{SO}_4$ . By subsequent titration with deci-normal  $\text{NaOH}$  the total N in the form of  $\text{NH}_3$  may be easily ascertained, as in the Kjeldahl estimation, and this is an important side issue. At the end of about half-an-hour what remains in the flask is made up to 250 c.c. with distilled water. 50 c.c. of this are taken, neutralised with one-fifth normal  $\text{HCl}$ , and 10 c.c. strong formalin added. The amino-acid combines with formalin, forming a body with acid reaction, and subsequent titration with deci-normal  $\text{NaOH}$  will give the amount. Each c.c. of alkali = .0014 grm. of N as amino-acid. Multiply by 5 (for orig. 250), which gives amount in original 50 c.c. of urine used. Hence calculate the excretion per day. The total amino-acid can then be found by simple comparison of atomic weights.

The process sounds difficult, but with a little practice is perfectly simple—not at all beyond the resources of a very moderate laboratory.

My results in a few cases may be of interest :—

I. Normal case—		after 10 grms. glycocoll.
N as ammonia	.48 grm.	.36
N as amino-acid	.3 grm.	.3
II. Suspected amyloid liver—		
N as ammonia	.308 grm.	.49
N as amino-acid	.245 grm.	.25
		} negative result.
III. Suspected cirrhosis of liver—		
N as ammonia	.21 grm.	.29
N as amino-acid	.204 grm.	.56
		} doubtful result.

*The Aldehyde Reaction.*—The foregoing tests are, however, after all but adaptations to clinical work of experiments that have been performed for years in physiological investigations bearing upon metabolism—the last of my series has the merits of novelty, simplicity, and, I believe, reliability. If the results obtained by those who have worked much with this test can be established and confirmed we have in the aldehyde reaction a diagnostic method unsurpassed by any procedure in clinical laboratory work. Before entering upon the technique and results it is necessary to state plainly that the test depends upon what is now becoming an established fact in physiology—namely, that urobilin, which most of us have hitherto believed to be one of the important constituents and colouring matters of the urine, really exists in normal urines in very small quantities indeed. Further, any urobilin which is present is derived by oxidation on standing from a precursor called urobilinogen. Whence does the urine get this urobilinogen? The modern view is that bile pigment (bilirubin) is acted upon in the intestine (mainly in the cæcum) by organisms chiefly of the colon group, and reduced to urobilinogen. Most of this is excreted in the fæces (when reoxidation will often cause a bright stool to become brown on exposure), but some is reabsorbed and carried in the portal system to the liver, where the normal liver cells reconvert it to bile pigment. Hence little or none is allowed to pass through healthy livers into the general circulation. But should the liver cells be defective, or should a collateral portal circulation be developed, it will be obvious that considerable quantities of urobilinogen may pass, and hence appear in the urine. Now, in 1901 Ehrlich discovered that one of his synthetic preparations—viz., dimethyl-para-amino-benzaldehyde—gave a red colour with certain urines. He did not appreciate the reason, but Neubauer, in 1903, showed that the reaction was due to the presence of urobilinogen. This is the “aldehyde reaction.”

The test solution is a 2 per cent. solution of this



aldehyde powder in 50 per cent. HCl., and can be made in a moment. The addition of a couple of drops of this solution to about 5 c.c. of urine produces in cases when urobilinogen is present almost immediately a rose-red colour. In a few cases the colour takes some minutes to appear. The test is not affected by any other substances that may be present, though, naturally, the result is prettier in a clear urine. Spectroscopic examination shows the presence of two absorption bands—an aldehyde band in the yellow, and a urobilin band between green and blue. It is important that the urine be examined fresh owing to the alteration of urobilinogen to urobilin on standing in the air, but a specimen may be kept some time if well corked.

I do not propose here to discuss the chemical reaction of the test. The most accessible information on this point will be found in a paper by Chase in the *Journal of the American Medical Association*, 1912, Vol. II., where an excellent account of the test is given in full. I will just note two curious facts :—(1) That normal urine gives the test on boiling, and (2) that antipyrin (phenazone) is the only drug which has been found to produce a positive result.

Now, with regard to the clinical results : Many urines give a very faint pink colour, due, no doubt, to small amounts of urobilinogen, and in these cases it is generally easy to find a satisfactory reason—*e.g.*, constipation, liver congestion, &c. This does not constitute a positive reaction (the difference is very obvious), but may, I think, be very useful in indicating a suitable line of treatment. I have never obtained more than this slight pink in really healthy people ; frequently not a trace of colour is present.

There is also a slight possibility that, in cases of marked liver disease—*e.g.*, cirrhosis—if much diarrhoea were present bile pigment might be hurried out of the intestine before reduction or reabsorption could occur, thus producing a negative result, but the possibility is not very probable.

With these unimportant exceptions, the aldehyde re-

action is found to an extraordinary degree with all kinds of liver disturbance—being best marked in chronic passive congestion, cirrhosis, amyloid disease, fatty degeneration, syphilis, and tumours.

The test will not, of course, differentiate the type of disease, but in doubtful or suspected liver cases will prove important evidence—as in many other instances, a negative result being quite as important as a positive; indeed, some of my best results have been negative. Instances of this will readily suggest themselves—*e.g.*, early cirrhosis, ascites, liver metastases in malignant cases before or after operation, and the onset of parenchymatous degeneration in fevers. The result is well marked in most fevers, where a good reaction is a bad sign, but often negative in typhoid—here the appearance of a positive result may indicate gall-bladder trouble.

Owing to its simplicity my experience with this test has been considerably larger than with the others; indeed, I employ it in any case where the liver is at all open to suspicion. I do not remember any case, except one, where the result turned out to be fallacious, and in a few it was decidedly interesting. Let me give an instance:—Dr. Coleman kindly permitted me to examine a case with very marked ascites; the result was negative, and on confirming by the galactose test a negative result was also obtained. When I reported my belief that the liver was not affected, he informed me that he had just come to the same conclusion after tapping and obtaining a chylous-looking fluid, which, however, contained neither cells nor fat. Subsequent autopsy showed cancer of the head of the pancreas and peritoneum, but in *the liver no trace of disease*. One hesitates to dogmatise in these days when the theory and practice of to-day are wiped out to-morrow, but I believe this test to have a very real value. I strongly recommend its trial—indeed, I will go further and say that I think it should have a place in all routine urine-testing, as it already has in many of the foreign clinics.

I regret that my experience with the other tests is not yet sufficiently large to warrant the expression of an opinion. I have, at any rate, satisfied myself as to their accuracy with regard to normal individuals.

It is not easy to obtain a supply of suitable cases just when one requires them, but the results obtained hitherto lead me to hope that, with extended opportunities, my experience will coincide with that of other observers, who find these tests of assistance in trying to illuminate a very dark corner of our complex organism.

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ART. XVI.—*A Short Communication on Cancer of the Rectum.*<sup>a</sup> By WILLIAM TAYLOR, M.B., F.R.C.S.I., Surgeon to the Meath Hospital and County Dublin Infirmary.

DURING the past eighteen months out of a number of cases of rectal cancer that came under my care in four only was it possible to perform a complete radical operation. These cases, I thought, might serve as a suitable text for some remarks which I hope may excite discussion and elicit from the surgeons present any views they may now hold as to what the radical operation for cancer of the rectum should be.

The first case was that of a gentleman, aged about 70 years, who had been complaining for some months of the passage of blood, mucus and muco-pus. Nothing could be detected by digital examination, but by the sigmoidoscope a small cancerous growth was seen high up.

The abdomen was opened in due course and a small, freely movable growth was found in the pelvic colon. A few enlarged glands were present in the mesentery, but there were no evidences of secondary deposits elsewhere.

It was obvious that free removal of the visibly affected gut would render it impossible to re-establish the continuity of the bowel by end to end anastomosis. It was therefore decided to remove the entire pelvic colon and rectum.

<sup>a</sup> Read before the Biological Club on Tuesday, October 21st, 1913.

This was accordingly done—the cut end of the sigmoid flexure being brought out through the split muscles in the inguinal region to form a permanent anus.

The abdominal part of the operation completed, the bowel was removed from below by the parasacral route.

The entire operation took almost two hours to finish, but, I regret to say, the result was unsatisfactory, as the patient died four days subsequently.

On thinking over this case since, I feel sure I should have done much better for the man had I contented myself with the free excision of the visible expression of the disease, closed the divided end of the rectal segment and infolded it by a purse-string suture instead of removing the entire lower segment. The pelvic peritoneum then could have been sewn across so as to shut off the abdominal cavity and the blind rectal segment could have been syringed gently at intervals. The time required would have been reduced to at least one half, possibly one third, and the risks of shock and sepsis correspondingly diminished.

The second case was that of a lady, aged 50 years, upon whom Dr. Hastings Tweedy very kindly asked me to assist him to operate. The condition for which Dr. Tweedy was operating was a uterine fibromyoma, but the patient had been complaining for some months of rather indefinite intestinal trouble—increasing constipation with colicky pain and occasional mucous discharge. The hysterectomy completed, a small carcinomatous growth was found occupying the lower portion of the pelvic colon, so that a clamp could not be placed below the growth for the purpose of resection and anastomosis. I therefore decided to divide the sigmoid flexure and remove the entire pelvic colon and rectum. The sigmoid divided, the pelvic colon and rectum were separated to within about three inches of the anal margin, at which point the bowel was cut across and removed, the remaining lower segment was denuded of its mucous membrane, after which the sigmoid flexure was mobilised and prolapsed through the lower segment and sutured to the skin at the anal margin. A few points of suture were also

passed through the upper end of the lower segment and the prolapsed sigmoid. An opening was then made through the posterior vaginal fornix, and a gauze drain passed into the operation region. The peritoneum was brought across from each side of the pelvis and sutured carefully round the sigmoid flexure above the gauze drain, thus closing off the peritoneal cavity completely. Another gauze drain was brought from the operation area out through the lower angle of the abdominal wound which was closed in layers. The subsequent course of the case was uneventful. The lady was able to leave hospital in four weeks, has since gained over a stone in weight, and is at present in perfect health. It is now one year and six months since the operation was performed.

The third case was that of a woman, aged about 52 years, who was sent to me to the Meath Hospital by Dr. Winder, of Glasnevin, suffering from symptoms of rectal cancer. A growth was detected as high up as the finger could reach. After the usual preliminary operation, the abdomen was opened, when it was determined that it was possible to remove the trouble completely. Bearing in mind the facility with which I was enabled to extirpate the rectum and pelvic colon in the former case after hysterectomy had been performed, I at once removed the uterus. The diseased area of bowel was then removed just as in the former case, and the sigmoid brought out through the anal canal, which had been denuded of its mucous membrane. About one and a half inches of the lower end of the sigmoid sloughed off, but otherwise recovery was uneventful, and the patient has perfect control over the bowel and is in perfect health.

The last case was that of a man, aged about 60 years, who was sent to me by Dr. Jacob, of Maryborough, with the diagnosis of rectal carcinoma. The growth was situated about five or six inches above the anal margin. After the usual preparation, the abdomen was opened and carefully explored. There were no evidences of secondary deposit. Having regard to the situation of the growth,

which was just at the junction of the pelvic colon and rectum, it seemed to me that the safest procedure, so far as the patient was concerned, was to divide the sigmoid and extirpate the entire bowel below. The sigmoid divided, the bowel was separated as low down as possible after which the peritoneum from the pelvic sides was sutured over a gauze sponge which was packed over the separated bowel. The abdominal wound was closed after the permanent anus had been established, by bringing the lower end of the upper sigmoid segment through the split abdominal muscles.

The patient was then placed in an exaggerated lithotomy position, and the entire bowel and anal canal were completely excised. Free drainage was employed.

The subsequent course of the case was satisfactory, the patient being able to return home in less than four weeks after the operation.

Two important principles are to be borne in mind, viz. : the complete removal of the local disease with as much adjacent tissue as may possibly seem to be affected, and the removal, as far as possible, of the associated lymphatics. Mr. Fagge has recently demonstrated an extension downwards of the cancerous infection into the lymphatics of the anal canal without visible involvement of the canal itself. This would indicate that the anal canal should always be removed in any operation undertaken for the complete extirpation of rectal carcinoma. Mr. Handley has shown that cancerous permeation may be found in the bowel wall as high as six inches above the obviously visible limit of the disease.

This observation would indicate that a considerable area of bowel above the visible site of disease should be removed. If these demonstrations of Fagge and Handley are accepted as correct it means that every radical operation for rectal carcinoma should consist in the removal of the entire bowel from the sigmoid to the anal margin together with the associated lymph nodes. Whether such an extensive operation is absolutely necessary is still a disputed point, but, it may be said that the majority of

the younger generation of surgeons are of the opinion that it is so.

Granted that such an extensive operation is necessary it can only be satisfactorily carried out by means of a combined abdominal and perineal or sacral operation performed in one or two stages.

By such a procedure the operative treatment of rectal carcinoma is brought more into line with the modern operation for cancer in other situations—notably the breast. By such a method of operating, cancers which, by the perineal or sacral routes, would be considered inoperable, can be readily removed.

It may be said that it is seldom one finds that a growth which would be considered readily removable is associated with any extensive glandular involvement.

On the other hand it must not be forgotten that one frequently finds that a secondary deposit has already occurred in the liver in a case in which there is practically no glandular enlargement and in which the primary growth is still very freely movable. Such a condition can be discovered only by palpation of the liver through the opened abdomen. No good result could be expected to follow rectal excision in such a case, and yet, if surgeons religiously followed the perineal or sacral methods of operating, many such cases would be, and I believe, are, operated upon.

I have opened the abdomen in four cases with the object of performing a complete combined abdomino-perineal or sacral operation, but, unfortunately, secondary deposits were discovered in the liver. The local conditions were eminently suited for complete removal. In one of these cases the growth was situated in the pelvic colon, so that I was able to excise it and do an end to end anastomosis so as to prevent the inevitable obstruction. It seems strange that in each of these four cases the secondary deposits in the liver were only detected upon the diaphragmatic surface.

The mortality of the combined abdominal and perineal

or sacral operation seems to be the chief stumbling-block to its general adoption. It is put down by different operators as varying from fifteen per cent. to forty per cent., a somewhat wide variation.

I think it cannot be doubted that this high mortality is attributable in some measure to the fact that many cases are operated upon by this method which would otherwise have been deemed inoperable, and condemned to much misery and certain death. The combined operation performed in two stages should give a much reduced mortality as compared with the complete operation performed at one sitting.

W. J. Mayo states in a recent paper that the combined operation performed in two stages is attended by a mortality of less than one half that of the combined operation completed in one stage. For cancer situated in the lower part of the pelvic colon in patients not suited for prolonged operative procedures the best method of treatment, it seems to me, is to simply excise the growth with as much bowel above and below as may appear advisable, and where it seems impossible to perform an anastomosis let the cut end of the lower rectal segment be closed and the closed end inverted by a purse-string suture. Close the pelvic peritoneum over this and bring the lower end of the sigmoid segment through the left rectus muscle to form a permanent anus. The blind rectal end thus left might be removed at a later date if Fagge's demonstration is accepted, or it may be left and syringed at intervals to wash out the mucous secretion. By such a procedure the time necessary for the completion of the operation could be reduced by at least one half, with a corresponding reduction in the shock and risk of sepsis.

It can easily be seen from what I have stated above that I am convinced that an abdominal section should always be performed as a preliminary to rectal excision, no matter what the subsequent steps may be, and I also feel convinced that a combined abdomino-perineal or sacral operation is that which in the majority of cases will



give the best results. In stout or enfeebled patients, I believe that cancerous growths situated about the junction of the pelvic colon and rectum can be most satisfactorily treated by dividing the sigmoid flexure and establishing a permanent anus through the left rectus muscle, after which the pelvic colon with the growth can be separated and the bowel divided well below the disease. The lower cut end should then be closed and infolded by a purse string suture and the peritoneum drawn over it.

In men, I think, it is much safer to complete the combined operation by the establishment of a permanent anus rather than make any attempt to bring the sigmoid down to the normal anal region.

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#### THE TYPE OF BACILLUS IN TUBERCULOSIS OF THE BONES AND JOINTS.

THE view that tuberculosis of the bones and joints is almost exclusively due to the human type of tubercle bacillus is emphasised in the *Deutsche medizinische Wochenschrift* for September 18th by Dr. B. Möllers, Koch's late assistant. His investigations in 12 cases of tuberculosis involving the bones and joints failed to demonstrate any but the human type of tubercle bacillus. Of the patients examined, three were between the ages of five and sixteen, the rest being older. Pure cultures of the bacilli were obtained in every case; in one case three cultures were obtained at different periods, and in another case two cultures. From the 15 cultures thus obtained 49 rabbits were inoculated with a dose of 10 mgm. each. These subcutaneous inoculations, which were to a certain extent supervised by Koch, conclusively proved, according to Dr. Möllers, that only the human type of tubercle bacillus was present. He has also collected the observations on this subject made by 15 workers in 163 cases (including the 12 cases already referred to) of tuberculosis of the bones and joints. Of these, only four were associated with the bovine type of bacillus. The remainder were undoubtedly due to the human type. In other words, only 2.45 per cent. of these cases showed the bovine type of bacillus.—*The Lancet*, October 11, 1913.

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## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*Contributions to Practical Medicine.* By SIR JAMES SAWYER. Fifth Edition. Birmingham: Cornish Brothers. 1912. Cr. Svo. Pp. 410.

WHEN an author starts with Pythagoras's injunction (quoted in French), "taisez-vous, ou dites quelque chose de meilleur que le silence," we are at any rate prejudiced in his favour. The appearance of a fifth edition of this work—the first having appeared as long ago as 1886—gives the impression that this laudable ambition has succeeded in the previous ones.

The book is made up of a collection of essays and papers which have previously appeared in various medical journals, annotated and kept up to date as far as the nature of the subjects will allow, while to this edition are added the Lumleian Lectures for 1908 on "Points of Practice in Maladies of the Heart."

The scope of the work is accordingly wide, though the book is small, and ranges through many topics of interest to the physician—from insomnia, constipation and heart diseases to the use of "medicated chocolate creams." Everywhere we can see that a teacher is speaking from his own large clinical experience, while the elegance of style makes the perusal of the book a continual pleasure.

Its atmosphere, indeed, transports us from the cut and dry, strictly scientific treatise of the present day back to the time of the famous older teachers and writers like Graves and Addison, who gave us those classics which laid the foundations of our knowledge. Herein, in fact, is the only fault we can find—that of the reproduction of views which have now become "out of date" or passed into the stage of medical axioms. For example, speaking of

intestinal obstruction, the author says: "Surgical art . . . has rescued not a few whom the skill of the physician has proved powerless to save, and this great art promises . . . a material reduction in the present high mortality of intestinal closure." The surgeon will doubtless agree, but will he be satisfied with this?

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*Protein and Nutrition.* By Dr. M. HINDHEDE, Director of the Hindhede Laboratory for Nutrition Research, Established by the Danish Government. London: Ewart Seymour & Co. 1913. Pp. x+ 201.

THOSE who have hitherto thought that the value of protein in nutrition had been finally settled ought to lose no time in reading the above book. They will find—probably to their surprise—something new and refreshing. The book distinctly conveys the impression that its author is trustworthy—an enthusiast it is true, but an honest one, and well informed.

Dr. Hindhede had had a remarkable career. The son of a Danish farmer of well-to-do circumstances, he was nevertheless brought up in a frugal way, and after graduating in medicine in the University of Copenhagen, settled down in practice in his native district of West Jutland. Becoming interested in questions of nutrition, he was soon driven to the conclusion, from his observations on the dietary and industrial efficiency of the West Jutland farmers around him, that there was something erroneous in the Voit's dietary standard of 118 grms. of protein and 3,000 large calories of energy per diem for a man doing moderate work. This he had implicitly accepted as a medical student. But the agricultural labourers of his district, doing strenuous work for 14 to 16 hours per day, obtained in their food only a fraction of the "standard" amount of protein. He was consequently forced to conclude that the value of this constituent of the dietary is much overrated. In this belief he was confirmed by a preliminary experiment upon himself, in which he kept for a month in excellent health on a low protein

dietary of bread, butter, potatoes, sugar and fruit, taking vigorous physical exercise all the time.

Dr. Hindhede also extended his ideas to the feeding of cattle, and induced several farmers to adopt them with very satisfactory results both economically and otherwise.

These investigations attracted considerable attention, and ultimately led the Committee of Agriculture to petition the Danish Government to secure Dr. Hindhede's services for scientific research exclusively. The petition was granted, and in January, 1911, at the age of forty-nine, Dr. Hindhede was installed in a laboratory of his own in Copenhagen. Prior to this, in 1905, the first edition of the work now under review appeared in Danish. To the second edition, and to its translation into English, are added the results of experiments carried out in the new laboratory.

The book contains eighteen chapters. Eleven of these—nearly half the whole work—are devoted to a critical survey of previous investigations on the subject of nutrition. The errors of Liebig and Voit are convincingly shown. Then the experiments of Hirschfeld, Klemperer, Rubner, Landergren, Chittenden, Irving Fisher, Sivèn and others ; also the investigations of Kumagawa, Baeltz and Oshima on the dietary of the Japanese, of Atwater and Woods on that of twenty negro families in Alabama ; of Jaffa on Frutarians in California ; and even the later observations of Voit himself are all tellingly recounted, to show that the optimum of protein intake lies far below, probably at less than one half of the Voit standard. A special chapter is given to Professor M'Kay's experiments in India, and a strong case, based on M'Kay's own data, is made out against his conclusions, which, as is known, are in favour of a high protein dietary.

In chapter XII. the question is raised : "Are vegetable foods difficult to digest." The answer is in the negative, the experimental basis for the old belief to the contrary being shown to be erroneous. Next comes an account of the special investigations of the author. The outstanding feature of these is the value proved to belong to the potato as a staple article of diet.

Experiments with various human subjects—in two cases extending to 300 hundred days each—showed that excellent health and unimpaired capacity for work could be maintained on a diet consisting solely of potatoes and margarine. But the reservations are made that : “one must know how to buy potatoes” ; “one must know how to boil potatoes” ; “one must know how to eat potatoes” ; and *conditio sine qua non*, one must never eat a bad potato : it kills the appetite.

The experiments so far made were of two classes—(a) those on cheap nutrition ; (b) those to decide the nitrogen minimum. Dr. Hindhede found that with a liberal supply of cereals, potatoes and vegetables, and a reduced supply of meat, an average man could be fed on 5d. per day, giving him 75 grms. of protein and 3,000 calories of energy. He had lived himself for eight weeks on such a diet, and never felt better. During its continuance he made a bicycle tour of 155 miles through hilly country to test his condition. Starting at 6 45 a.m. and ending at 8 30 p.m. on the same day he rode 108 miles. Next morning he rode the remainder of the distance, 47 miles, in a little over four hours, arriving at 10 45 a.m., and this without undue fatigue and without having been previously in training.

To determine the nitrogen minimum, experiments were carried out with a subject for over five months. This was divided into several periods during which the protein of the diet was steadily reduced. The following are samples of the results. In period 2 (11 days) the diet contained 43 grms. protein with 3,600 calories. In period 15 (19 days), using potatoes with a lower content of protein, the amount in the dietary was reduced to 30 grms. with 3,900 calories. This was further lowered in subsequent periods, the figures for period 19 (8 days) being 21 grms. protein and 4,054 calories. In all cases the above figures represent gross quantities, no allowance being made for unabsorbed nitrogen, and in all the equilibrium showed a slight + balance.

Needless to say these are remarkable results. In no previous investigations extended over any lengthened period

was so low a protein level maintained. Chittenden's results come nearest, and in these the lowest for himself was  $35\frac{1}{2}$  grms. of gross protein with a yield of only 1,549 calories, which represents, for a yield of 3,000 calories, a protein level of 70 grms.

In the remaining chapters of the book Dr. Hindhede discusses such questions as "Over-feeding," "Meat and Energy," "Low Protein Diet and Children," finishing up with a chapter entitled "Enjoyment of Life," in which he gives a balance of the advantages and disadvantages (the latter being negligible) of his system of dietary.

The book is attractively written and, on the whole, well translated. There are a few slips, mostly printer's errors. One of these, on p. 74, is a little embarrassing till the error is detected. The statement reads "28 grms. of protein," when it should be 98 grms. There are eight full-page illustrations, mostly reproductions of photographs.

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*The Dublin University Calendar for the Year 1913-1914, to which are added the Ordinary Papers set in the Year 1912-13.* Vol. I. Dublin: Hodges, Figgis & Co. 1913. Svo. Pp. viii + 64\* + 488.

THE Calendar contains the usual information, so indispensable to all students in Arts and in the various professional Schools. The last 143 pages contain the papers set at the ordinary examinations in Arts during the Academic year, 1912-13.

A commonly believed legend is that the organ in the gallery of the Public Theatre, usually called the Examination Hall, of Trinity College, was taken from the Spanish Armada. But the *coup-de-grâce* is given to this legend in the following paragraph at page 328:—"In the gallery is the case belonging to the organ of the old chapel. This organ was built in Holland for a church in Spain, but was taken from the Spaniards in Vigo Bay, 1702, and repaired and enlarged in 1705. It was presented to the College by the second Duke of Ormonde."

The present volume contains 26 pages fewer than the

Calendar for the previous year. But this is accounted for by the omission of the Letters Patent, A.D. 1911, which occupied 30 pages of the volume for 1912–1913. It is a pity that no reference is given to this fact.

The Calendar is very well brought out, and reflects credit on the Editor, Mr. M. W. J. Fry, M.A., F.T.C.D., the University Press, and the Publishers.

*E. Merck's Annual Report of Recent Advances in Pharmaceutical Chemistry and Therapeutics*, 1912. Vol. XXVI. Darmstadt : E. Merck. 1913. 8vo. Pp. 524 + xix.

THIS unpretending, paper-bound volume of over 500 octavo pages is really a valuable work of reference. On this occasion, as often in past years, we would emphasise the fact that Mr. Merck's Annual Report embodies an impartial review of the literature published during the past year on chemicals, drugs and new remedies of medical and pharmaceutical interest, and no commercial considerations influence the contents of this valuable work. The work is compiled from the publications of the authors referred to,—full particulars of the publication quoted being given in each case—and the author purposely refrains from any comments, except where a somewhat unusual statement compels him, in the interest of the reader, to draw attention to the views contained in other publications or text-books on the point in question.

A limited number of copies of the present volume will be sent to members of the medical profession on application to Mr. E. Merck, the Chemical Works, Darmstadt, or to his London Office, 66 Crutched Friars, E.C. The book will also be obtainable through the bookseller at 1s. 6d. per copy.

*A Laboratory Manual of Invertebrate Zoology.* By GILMAN A. DREW, Ph.D. Second Edition, Revised. Philadelphia and London : W. B. Saunders Company. 1913. Pp. 213.

THIS carefully thought-out manual contains sets of laboratory directions dealing with nearly a hundred species, as

well as connecting paragraphs designed to keep the essentials of classification before the student. The directions are clear and concise, and direct attention to individual peculiarities rather than to repetitions of structure. This keeps students from trying to make everything conform to type, and leads them to look out for the adaptations that fit the different animals for their particular lives.

In the present edition short but helpful references to literature are added ; these will enable students to become acquainted with methods of work, and perhaps imbue them with the spirit of research.

*Our Outsides : and what they Betoken.* A Summary by  
W. T. FERNIE, M.D. Bristol : John Wright & Sons.  
1913. Cr. 8vo. Pp. xv + 413.

THIS final contribution from the fertile pen of a veteran physician is built on the plan of the old-fashioned "Commonplace Book." "The Hands," "The Eyes," "The Nose," and similar headings seem to have been set down, and then whatever turned up relating, even remotely, to the subject-matter of the title was entered under it.

Thus under "The Ears" a parody entitled "The Village Choir" is given ; the first of the seven verses runs :—

" Half a bar, half a bar,  
Half a bar onward ;  
Into an awful ditch,  
Choir and Precentor switch ;  
Into a mess of ' pitch '  
Lead the Old Hundredth ! "

The whole of the " Battle of Blenheim " is quoted under " The Head," because the grandchild describes a skull as " so large, and smooth, and round."

Indeed, under the heading " The Mouth," Eliza Cook's, " The Old Armchair " is given first in English, and then



in Latin, simply that the reader may the better appreciate a somewhat halting parody entitled "The Dentist's Chair!"

This method of setting down what comes to hand leads to many omissions; thus in treating of the markings of the nails the author fails to note the transverse ridges left by illness, an omission that shows a strange lack of observation.

Once, however, "Our Outsides" is recognised as "a book that is not a book," it can be read with pleasure and profit.

As the mention of a feature of the face is considered sufficient justification for dealing discursively with anyone in whom that particular feature was peculiar, the reader of Dr. Fernie's book will renew acquaintance with many old friends in popular history and other fiction.

The following verse, which occurs in the section devoted to "The Ears," may be useful as a memory test:—

"Conclusive tenderness; fraternal grog;  
Tidy conjunction; Adamantine bog;  
Impetuous, arrant toadstool; thundering quince;  
Repentant dog-star; inessential prince;  
Expound, pre-Adamite, eventful gun;  
Crush retribution, carrant jelly, pun,  
Oh! eligible darkness, fender, sting,  
Heav'n-born insanity, courageous thing,  
Intending, bending, scourging, piercing all,  
Death-like pomatum, tea, and crabs must fall."

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*Gonorrhœa in Women.* By CHARLES C. NORRIS, M.D.  
Philadelphia and London: W. B. Saunders Company.  
1913. 8vo. Pp. 521. Forty Illustrations and Coloured  
Plates.

THIS large work on the subject of gonorrhœa may be divided into three parts—the bacteriology, diagnosis, symptoms, and complication of gonorrhœa in the female; secondly, the remote effects of gonorrhœal infection, in tubes, ovaries, uterus, &c., with a clear and full account

of the operative treatment necessary in such cases ; almost all of this section is dealt with fully in the ordinary works on gynæcology. The third portion of the book deals with the sociology of gonorrhœa. In dealing with this subject the author refers to and gives statistics of gonorrhœa in the male. The disease and its prevention in women is hardly dealt with at all.

A very large number of references—some 2,300—are given, but the book is too diffuse. An unnecessary amount of space is devoted to unimportant matters, while important subjects are barely dealt with at all. The history of gonorrhœa and prostitution fills some fifty to sixty pages. The whole question of gonorrhœa serums and vaccines, their mode of preparation and administration, are dismissed in three pages. The space devoted to these subjects might with advantage have been reversed.

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*A Text-book on Gonorrhœa and its Complications.* By DR. GEORGES LUYs. Translated by ARTHUR FOERSTER, M.R.C.S., L.R.C.P. (Lond.). London : Baillière, Tindall & Cox. Royal 8vo. Pp. xx + 384 . 200 Illustrations.

DR. FOERSTER has succeeded in producing an excellent translation of Dr. Luys's admirable work on gonorrhœa. Dr. Luys's name is so well known in connection with recent bladder and urethral work, and is so intimately associated with his urethroscope, that this volume is certain to meet with a warm reception from British medical men.

The history, pathology, and ætiology of gonorrhœa are all fully gone into ; the very important subject of non-gonorrhœal inflammations of the urethra, is well dealt with ; the diagnosis and treatment of gonorrhœa and its many complications are discussed in the most interesting way. The author wisely refrains from giving a number of treatments, but describes fully the details of the line of treatment he has found to be most useful in such cases.

Dr. Georges Luys is frankly an instrumentalist ; he

does not believe it is at all possible to treat a chronic gonorrhœa and its complications without the use of the urethroscope. The use of the urethroscope has been in some countries much overdone, and for this cause possibly has fallen into a considerable degree of disuse in Great Britain. Dr. Luys makes out a strong case for its more frequent use in chronic cases.

The illustrations are numerous, most of them are original, and add clearness to a text that is throughout concise and pleasant reading.

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*Synopsis of Midwifery.* By ALECK W. BOURNE, B.A., M.B., B.C. (Camb.), F.R.C.S. (Eng.); Obstetric Registrar and Tutor, St. Mary's Hospital, London, &c. Bristol: John Wright & Sons, Ltd. 1913. Cr. 8vo. Pp. viii + 212.

THIS hand-book is an attempt to set the principal points of obstetrics before students preparing for qualifying midwifery examinations in a simple and concise manner. We consider that this attempt is abortive without the assistance of an efficient teacher, and we are strongly against the use of this book and of other such books, which are only of value to those with prodigious memories.

Practical obstetrics has taken such a prominent place in the medical curriculum that, although it is stated that this synopsis is only intended as a supplement to the ordinary text books, these bald statements of facts without illustrations or explanatory text are of little worth to the practitioner or to the student.

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*Tabular Diagnosis: an Aid to the Rapid Differential Diagnosis of Diseases.* By RALPH WINNINGTON LEFTWICK, M.D.; Late Assistant Physician to the East London Children's Hospital. London: Edward Arnold. 1913. 8vo. Pp. vi + 359.

It is difficult to form a clear estimate of the value of such a book as this. It consists of a collection of 350 tables

of diagnosis. The preface claims that "this mode of exhibiting at a glance the divergencies of two otherwise similar diseases offers great and obvious advantages to a busy practitioner." The author further states that he has been "at some pains to make it unavailable as a cram book," but considers that it may be legitimately used by students who have read their text-books as a means of testing their knowledge.

Many of these tables are familiar to us in text-books of medicine or on the blackboards used at hospital clinics—tables such as those differentiating alcoholic from apoplectic coma, ascites from ovarian cyst, scrotal hernia from hydrocele, chancre from soft sore, &c. On the other hand, the author's contention that a collection of 350 such tables is quite unprecedented is undoubtedly, we believe, true. These tables have evidently been prepared with considerable care and accuracy, and many of them would undoubtedly prove useful for the purpose for which they are intended.

We take exception to the following instances, more to show the impossibility of meeting all cases in differentiating tables such as these than to mark actual error. Thus in Table 25 *x*-rays are said to "show a tumour" in aneurysm of the abdominal aorta and to be "negative" in pulsating aorta. The value of the rays can, we think, seldom be relied upon in these cases. In Table 51 Argyll-Robertson pupils are said to be a symptom common to ataxic paraplegia and hereditary cerebellar ataxia, while in Table 195 the former disease is distinguished from locomotor ataxy by the pupil being normal. In Table 92 *x*-rays are not mentioned for differentiating calculous from simple cystitis, although the cystoscope is sometimes contraindicated. In Table 98 the temperature in diphtheria is said to be "high." Table 113 does not mention the scalp, an examination of which we have known to be useful in diagnosing lupus erythematosus from other skin affections. In Table 41, on ascites and greatly distended bladder, the sex in the latter case is given as "female."

Many other similar instances might be mentioned, but this does not alter the fact that the book is full of a great deal of carefully compiled and compact information. The tables should prove useful for the purpose for which they are intended, but they must be used with intelligence, and only by those who have studied their text books. A good index is to be found at the end.

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*Gynæcological Diagnosis and Pathology*. By A. H. F. BARBOUR, M.D., LL.D., F.R.C.P. Ed., and B. P. WATSON, M.D., F.R.C.S. Ed. Illustrated. London: Wm. Green & Sons. 1913. Pp. xvi + 220, with Index.

THIS short work on gynæcological pathology is intended mainly for students. It consists first of some 30 pages devoted to a description of methods of diagnosis, and then the remainder of the book deals with pathological conditions. We are glad to see that the importance of the bi-manual method of examination is laid down, but we would rather see more insistence on asepsis than on the use of carbolised vaseline and the warming of the speculum. Marion Sims posture is described, and Sims' speculum is said to be the only one with which the sound or the curette can be used!

The pathological part of the book is on the whole very sound. We notice a few omissions, notably all reference to hydro-salpinx, and tubo-ovarian cysts. The description of tubal tuberculosis is rather confusing. The authors begin by stating that it may take two forms, and then illustrate (Fig. 138) a third. Our own experience leads us to say that neither of the two forms first mentioned is the more common, and indeed in most cases miliary tuberculosis of the peritoneum covering the tube can hardly be correctly termed tubal tuberculosis at all.

The book might, with advantage, be carefully revised and a number of small discrepancies corrected. Omitting these faults, however, it is a safe guide to gynæcological pathology.

## PART III.

### SPECIAL REPORTS.

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#### REPORT ON MEDICINE.

By T. GILLMAN MOORHEAD, M.D., F.R.C.P.I. ; Physician  
to the Royal City of Dublin Hospital.

##### I. USE OF SALICYLATES IN ACUTE RHEUMATISM.

MILLER has studied the effects of salicylates on a series of cases of acute rheumatism treated at St. Mary's Hospital, more especially with a view to answering or admitting the truth of certain objections levelled against the salicylate method of treatment. He formulates the following conclusions :—(1) The objection that the larger doses of salicylates do not imply increased absorption is without foundation, as the amount of salicylate excreted in the urine varies directly with the amount ingested. (2) The objection that large doses are prone to produce vomiting is only partially true. Salicylates are gastric irritants, and will therefore produce vomiting in a certain percentage of cases, but this may occur quite independently of the dose given. Vomiting is more a matter of the type of case under treatment than anything else, and is specially seen in cases with severe cardiac lesions. In such cases it may be necessary in consequence to limit the use of the drug. (3) The objection that large doses are too prone to produce acid intoxication is only partially true. Provided constipation is avoided, and that alkalis are given with the salicylate acid, intoxication can usually be avoided. (4) The objection that large doses are in themselves dangerous is not supported by an analysis of cases, no fatality in his series being attributable in any way to the drugs employed. (5) The objection that salicylates do not prevent relapses is unsound, as most

relapses occurred after small doses or a short period of administration ; cases taking large doses showed some immunity to relapse.—*Quarterly Journal of Med.*, July, 1913.

## II. THE SIGNIFICANCE OF THE PRESENCE OF ALBUMEN IN SPUTUM.

KAUFFMANN (*Beitrag zur Klinik d. Tuberkul*, Bd. 26, H. 3) points out that the recognition of albumen in sputum is very easily carried out by a simple test available at the bedside. Albumen is found in the sputum in pulmonary tuberculosis, in pneumonia, in congestive catarrh and in foetid bronchitis ; it is absent in chronic bronchitis. When a positive albumen reaction is in accord with other physical signs it is confirmatory of a diagnosis of active tuberculosis. In healed tuberculosis the albumen disappears, and in croupous pneumonia it disappears soon after the crisis. If it should later return it points to a fresh pneumonic invasion, or to empyema, or to the formation of a pulmonary abscess.

## III. SYPHILIS OF THE HEART.

ORKIN (*Berlin klin. Woch*, 1912, No. 25) points out that syphilis plays an important part in the ætiology of myocarditis. Often one finds no cause for the sickness, and a history of syphilis is not obtained, but the Wassermann reaction may prove positive, and x-rays will show a heart enlarged in every direction, and with a dilated aorta. In young individuals in whom cardiac symptoms suddenly appear without apparent cause, one should especially think of syphilis. In almost all young patients relief of symptoms rapidly follows on appropriate treatment either by mercurial inunction or by potassium iodide. In older patients cure is much more difficult of attainment. It has not yet been determined whether salvarsan can safely be used.

## IV. VALUE OF LUMINAL AND OF CROTALIN IN EPILEPSY.

HAUTTMANN (*Münch med. Woch*, 1912, No. 35) states that the number and the severity of epileptic fits can be

diminished by the administration of luminal. This is specially noticeable in certain severe cases of epilepsy which can no longer be influenced by even the highest doses of bromides. In cases of moderate severity doses of from .15 to .2 gramme may be given daily, and in severer cases .3 gramme. Even after the daily use of luminal for a month no cumulative effects are produced.

SPANGLER writes on the use of crotalin for the same disease. He has now tried it in thirteen cases (*New York Med. Journal*, 1912, Sept. 14) of idiopathic epilepsy, and is of opinion that it diminishes the frequency and the severity of the fits. It also calms the excitability of the nervous system, and in general exercises a favourable influence on metabolism and on the mental state. Provided aseptic precautions are taken and the patients are carefully observed no ill results follow the use of the drug. It is supplied in sterilised ampullæ containing 1 cubic centimetre.

#### V. ANTE-MORTEM THROMBOSIS IN PNEUMONIA.

FLEMING (*Edinburgh Med. Journal*, Sept., 1913) discusses the nature of the clots so often found in the right heart in death from lobar pneumonia, and expresses the opinion that such clots are frequently formed hours, or even days, before death. Excess of  $\text{CO}_2$  in the blood, and the formation of abundant thrombokinase owing to disintegration of large numbers of leucocytes are probably important factors in bringing about this *ante-mortem* thrombosis. Clinically he believes that thrombosis may be feared in any case in which engorgement of the jugular veins is present along with diminution in loudness of the pulmonary second sound. In order to combat the tendency to thrombosis in pneumonia he advocates the early administration of cardiac tonics, with the addition of diffusible stimulants if the heart shows any signs of difficult action. He thinks that the administration of oxygen may be useful also by counteracting the excess of carbon dioxide in the blood, and also suggests the use of drachm doses of citric acid every four hours. Bleeding he thinks should



never be performed unless in robust patients, as it may only aid a thrombosis which has already begun.

#### VI. EHRLICH'S ALDEHYDE REACTION IN HEPATIC CONGESTION.

JONASS (*Wiener klin. Woch*, 1912, No. 10) has made investigations on the amount of urobilin found in the urine in cardiac and pulmonary diseases. In each case he has tested fresh urine by means of Ehrlich's aldehyde solution, a pink colour indicating the presence of urobilin. He finds that the reaction is positive in all cases in which the right heart is congested, and that the amount increases if extra work is thrown on the heart in such cases. In nervous asthma the reaction is positive during the paroxysm, and subsides as the symptoms pass off. In valvular disease of the heart a positive reaction is obtained while failure of compensation exists, and a negative one when compensation is normal. In each case presumably the appearance of the urobilin is due to the hepatic insufficiency caused by congestion secondary to pulmonary or cardiac disease. As a measure of the amount of venous congestion present the test may be of some value.

#### VII. TESTS FOR HEPATIC FUNCTION.

WHIPPLE and others discuss the value of certain tests for hepatic function (*Johns Hopkins' Bulletin*, July, 1913). They point out that lipase exists in normal human and animal blood plasma in fairly constant proportions, and that experimentally injury of the liver by chemical means causes a rise in this plasma lipase. Clinically they have found a high lipase amount in several cases of eclampsia : in jaundice there may be a slight rise, but more often there is a fall. The amount of fibrinogen in blood is also fairly constant : it falls to a low level with injury to the liver and returns to normal as recovery takes place. Clinically a low index is found in hepatic cirrhosis, and in cases of delayed chloroform poisoning. The third test discussed is known as the phenol-tetrachlorophthalein test, and is of special value, as this drug when injected intravenously or

subcutaneously is excreted by the liver cells into the bile, and is excreted in the fæces. Under normal circumstances from 40 to 50 per cent. of intravenous doses can be recovered from the fæces, but when the liver is injured the percentage may drop to 20 per cent. or even 10 per cent., and a certain amount of the drug begins to appear in the urine. The test is of course of no value in cases of obstructive jaundice, but clinical observation in other cases suggests that the test may prove of great value in the estimation of hepatic function.

#### VIII. TUMOUR OF THE PINEAL BODY.

BRILEY and JELIFFE (*Archives of Internal Med.*, 1911, VIII. 6) report a case of tumour of the pineal body, and analyse the symptoms noted in it and in all other previously published cases. An early symptom is great increase of intracranial pressure, caused by a rapid development of hydrocephalus, which leads to headache and attacks of vomiting. Giddiness is an early symptom, and is followed by optic neuritis. Lethargy, paralysis of ocular muscles, nystagmus, and inequality of the pupils are also met with, and sometimes dilatation of the pupils resulting from pressure on the corpora quadrigemina. Pressure on the cerebellum may give rise to cerebellar symptoms. Among characteristic symptoms is to be mentioned obesity, which probably depends on the kind of tumour present, and on co-existing hypopituitarism produced by the tumour pressing on the pituitary body. In the same way probably arises the precocious development of the genital organs that is met with, though Biach has shown that the pineal gland and the sexual glands are in some way related to one another, inasmuch as castration of young animals leads to atrophy of the pineal gland. Sometimes severe cachexia is encountered and is regarded as the direct result of changes in the pineal gland itself.

#### IX. THE HISTOLOGY OF MYOCARDIAL DEGENERATIONS IN VARIOUS INTOXICATIONS.

ANITSCHKOW has investigated the changes produced in heart muscle by the toxin of diphtheria, and also those produced by the combined action of adrenalin and

spartein. He found that the changes could be grouped under the three headings of degenerative changes in the muscle fibre, œdematous changes, and inflammatory changes. The degeneration consisted in practical destruction of the nuclei of the muscle fibres, deposition of fat within the fibres, and a general loss of differentiation. The œdematous changes consisted of swelling of the interstitial substance accompanied by the appearance of new cells, and without any change of the fibres themselves, and were most noted in the hearts poisoned by adrenalin. Inflammatory changes presented the appearances common to inflammation elsewhere, and in later stages were represented by the development of granulation tissue.—*Virchow's Archiv.* Bd. 211, 2.

#### X. RAIN-BEARING WINDS AND THE PREVALENCE OF TUBERCULOSIS.

W. GORDON discusses this subject, and, as a result of his investigations, concludes that populations exposed to strong, prevalent, rain-bearing winds tend to suffer considerably more from pulmonary tuberculosis than populations sheltered from them. He thinks it probable that similar exposure affects appreciably the course of existing cases of phthisis, and increases the prevalence of bovine tuberculosis. He urges the importance of taking into account the wind-exposure of any place recommended as a place of residence to a cured case of pulmonary tuberculosis, and points out the necessity in investigating any influence bearing on the prevalence of pulmonary tuberculosis of first recognising and eliminating the influence of strong, prevalent rain-bearing winds.—*Practitioner*, Jan., 1913.

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#### THE LISTON VICTORIA JUBILEE PRIZE.

At the meeting of the Royal College of Surgeons of Edinburgh, held on October 15th, the Liston Victoria Jubilee Prize of £100 was awarded to Mr. John David Malcolm, M.B., F.R.C.S.E., London, for his investigation of Surgical Shock.

## PART IV.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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THE DIARY OF AN IRISH MEDICAL STUDENT, 1831-1837.  
Edited with Notes by T. PERCY C. KIRKPATRICK, M.D.,  
M.R.I.A.; Fellow and Registrar of the Royal College of  
Physicians of Ireland.

THE diary which is here printed was written by the late Dr. Robert Thompson, of Johnstown, Co. Kilkenny, during the period that he was a student of Medicine at Steevens' Hospital and the School of the Royal College of Surgeons in Ireland. Though the diary gives the merest outline of the writer's daily doings, yet it has seemed worth while to preserve it as the record of a medical student of the time.

Robert Thompson, in 1837, obtained the qualification of Licentiate of the Royal College of Surgeons, and the diary breaks off abruptly at that time. Subsequently he went to Glasgow, where in the University of that town in 1838 he graduated M.D. Later on he started practice in Johnstown, Co. Kilkenny, where he was appointed Dispensary Medical Officer. His brother, Henry Thompson, so often referred to in the diary as "Harry" or "Henry," also a Licentiate of the College of Surgeons, and M.D. of Glasgow, after serving for two years as Medical Officer of the Dispensary of Richhill, was appointed to the Dispensary of Trillick, in Co. Tyrone. Seven years later he was appointed Surgeon to the Co. Tyrone Infirmary at Omagh, where he worked with conspicuous success till his death on April 8, 1875. Robert Thompson spent his long life in Johnstown, Co. Kilkenny. He lived at Melross, in that neighbourhood, and retired from practice about 1904, and died a little later. The Rev. Mr. Thompson, father of Henry and Robert, was married first to

a Miss Irwin, of Co. Tyrone, who was the mother of both these doctors, and secondly to Miss Neville, of Co. Tipperary. Selina, Robert's sister, married a member of the Hely family.

### THE DIARY.

I was bound to Colles (1) on the 27th of October, 1831, when just commencing my sixteenth year, the 12th of that month being my birth-day, and had left school only about a fortnight; I had received a pretty fair, though not a very well grounded, education, the method of teaching at my last school being very superficial; the rudiments of Latin I had been well taught at Portora (2), where I spent two years. I then remained at home for two and a half years, getting instruction in Latin from my father and my brother, when he was at home from Dublin, where he was studying medicine. I went to Littleton School in January, 1829. At the latter part of this year my brother John returned from sea, where he had spent more than four years; he was very much disgusted with the service at that time, but I believe has been reconciled to it since. In the winter vacation of 1830 we were all at home except Selina; it is a curious fact that I never yet saw the whole number of us (eight) together at any one time, though I have seen seven frequently.

At Littleton I read all the College entrance course; the two first books of Euclid, Murray's Logic, and the classics for the two first examinations.

The lectures I attended in Dublin were on Chemistry, Surgery, Anatomy and Physiology, lived in Steevens' Hospital, where a number of wild fellows messed in our room,

(1) Abraham Colles, born July 23, 1773, studied medicine in Steevens' Hospital under Philip Woodroffe, and graduated B.A. in Trinity College in 1795. In 1799 he passed the College of Surgeons, and on July 26 of that year was appointed Resident Surgeon of Steevens' Hospital. In 1802 he was elected President of the College of Surgeons and two years later Professor of Anatomy. He continued in office as Resident Surgeon till 1813, when he was appointed Assistant Surgeon to the Hospital. In 1836 he resigned his Professorship, and in 1841 his post as Assistant Surgeon. He died December 1, 1843. He was the first to describe the well-known fracture of the lower end of the radius, which still bears his name.

(2) Portora Royal School, Enniskillen.

generally spent our evenings sparring and drinking punch and going to the upper gallery at the theatre.

In April, 1832, the cholera appeared in Dublin (1). I left it immediately after, being afflicted with nostalgia and some other nervous symptoms, which disappeared immediately on my reaching home on Easter Sunday, 1832. This summer I spent idling and shooting snipe, reading a little of "Richerand's Physiology" (2).

Returned to Dublin, October, 1832, to Steevens' Hospital, where I found Harry and Graham working hard dissecting, preparing to pass in May; this was my first winter dissecting, which business I liked and worked very hard at, but at Christmas was laid up for eleven days with small-pox, caught, I suppose, from a subject in the dissecting-room; just after I came to Dublin this winter my father unexpectedly followed (he having been presented to the parish of Templetuohy (3), near Templemore, the former occupant, Mr. Foster, dying of the cholera) to arrange about the change.

My father proceeds by *subpænâ* against the tithe defaulters in Fennor parish (4), and I leave Dublin in March, '33, and served one fine morning 17 out of 20 that I received, drove in a hired car, which I brought from Thurles, on to Johnstown (5), where my father and our family were then residing. It was at this time the Johnstown Dispensary election took place, and Ryan was returned. I returned soon to Dublin to swear to the service of the *subpænas*. In May, 1833, our family came to Dublin to lodgings we had provided in Camden Street, where they did not remain long,

(1) In the years 1832 and 1833 a severe epidemic of cholera visited Ireland. Though the returns are defective, 66,020 cases are recorded in these two years with 25,378 deaths, or a case mortality of 38.43 per cent. In the City of Dublin 5,798 deaths were recorded from the disease in the two years.

(2) *Nouveaux Elémens de Physiologie*. Par A. Richerand. 10e Ed. revue, corrigé, et augmentée par l'auteur et par Bérarel aîné. Paris, 1830. Several English translations of this work were published both in London and America.

(3) Templetouhy, a parish near Templemore, in County Tipperary.

(4) Fennor parish in County Tipperary.

(5) Johnstown, a post-town in the Barony of Glamoy, County Kilkenny, fifty-eight miles from Dublin, on the road to Cork by Cashel. George Hely owned considerable property there. Urlingford is a parish about two miles from this town.

but soon removed to Steevens' Green (1). About July I left town with my father to arrest the tithe defaulters, passed through Carlow, and stopped one night at Mr. William Butler's, of Ashfield. During this journey I was laid up with the influenza, and was quite helpless for a week afterwards; however, I soon went about the business, and going to Urlingford arrested Dennis Cormack, and was going into Kilkenny gaol when he struck and paid. His example was followed by many others, and about £70 was raised by several giving their notes for the amount. During those doings my studies were very much interrupted from March until July.

Returned to Dublin and found our family located at Merrion Avenue, the girls and Mun at school. About this time the boys at Steevens' got a boat in which we had several pleasant trips to Howth, Eyrelandseye (2), and Lambay, Kingstown.

I had been very heavy and stupid one day, and on hearing that the boat was going to Kingstown I agreed to accompany them, which I did, and pulled all the way as hard as I could, but I did not get rid of the unpleasant sensation; took two glasses of brandy; next day went out to Merrion, bathed in the sea, ill for two days more, and on the fifth day an eruption of papules appeared; decided measles; a few days after, when the eruption was not entirely gone away, I joined a party to see a launch, when I returned a pain commenced in my side, increased by inspiration and cough; decided pleuritis, was nauseated, bled and blistered.

After the blisters a number of boils came on my side, and being very thin and having a cough, I was sent to the country, and arrived at Fallowbank the week of the races at Enniskillen, September 3, 1833; remained in the North at Bara until November, '33, when I returned to Dublin to Steevens' Hospital, where, since Henry passed in July, Colles (3) had been my chum; at this time my father and

(1) St. Stephen's Green.

(2) Ireland's Eye, off Howth.

(3) William Colles, son of Abraham Colles, was born on July 2, 1809. He studied medicine in Steevens' Hospital, where he was an apprentice to his father. On July 9, 1831, he passed the College of Surgeons, and ten years later graduated M.B. in the University of Dublin. On February 11, 1834, he was elected Resident Surgeon at Steevens' Hospital, and continued to hold

Henry had been at Templemore, arranging the schedules for application for a share of the million fund. A little after this Henry went to Glasgow; worked away this winter very well; passed the first examination the 15th of November, and was busy preparing for the second, which is to take place in May. Colles and I spent a jolly winter, drank a deal of punch, went to the theatre at least two a week, passed the second examination May, '34.

In May, '34, Henry became Clinical Clerk to the Hospital, and the first grand turn out of old residents took place; about ten left the hospital, and it is in prospective for each surgeon to have only two resident pupils, and to take charge of accidents month about (1).

About this time I commenced writing a journal of all my transactions, which I have kept up ever since, but unfortunately the one I had of the first four months is lost, and the other so disconnected that I can scarcely form a continued narrative. However, I will at least transcribe the most material points and the dates of them.

Left Steevens' for "Cranagh House," where our family are now staying, at the beginning of July, walked out from that office till 1841, when he succeeded his father as Assistant. He continued connected with the Hospital till his death on June 18, 1892.

(1) At the meeting of the Governors of Steevens' Hospital on February 11, 1834, several changes in the management of the hospital were introduced. James William Cusack, who had been Resident Surgeon for twenty-one years, resigned, and was appointed third Assistant Surgeon. Cusack's duties as Resident Surgeon had been very comprehensive. He had "to superintend the whole establishment, the duties of the subordinate servants, the state of the wards and the premises generally, the registry and the attendance of the pupils, he has also to visit the wards twice a day to see that all directions have been carried into effect, and, moreover, he has special care of as many patients as either of the assistant surgeons, and is also required to deliver an equal number of clinical lectures." The Governors decided that for the future the Resident Surgeon "should be a young man who is not yet engaged in general practice in the city," and further, that the appointment should be made annually, and though the same individual might be eligible for election for six successive years, yet "after the sixth year he can never more be elected to that office." While Cusack was Resident Surgeon, like Abraham Colles, he had been President of the Royal College of Surgeons.



Templemore, and eat fruit in the garden. Next day could not come down to breakfast, with headache and feverish symptoms, quite floored, 12 leeches to my temples, James' powder. Henry came here from Dublin, and prescribed Dover's powder; recovered in about a fortnight, and was able to go about and eat quantities of fruit; amused myself shooting crows, woodquests, and had a few days' grouse shooting on Lord Carrick's bogs with the Helys, who were here frequently; killed a good number of plover. Mun and Henry left Cranagh together for Dublin about the beginning of August.

Copy of some notes taken at this time—November 15, '33. On the 13th passed the 3rd class examination at the College, having put in the 1st this time last year, the 2nd in May, the 3rd now, and with the help—the 4th in May next. I am on duty to-day, and had a good deal to do in the way of dressing fractures, took in an old man with a broken humerus. At present there are only six resident pupils in the house besides Tuthill, who lives in his cousin's rooms, two Clinical Clerks, Harry and John Hill, and one resident surgeon, William Colles. Charles Hely went home to-day in his carriage. I promised to go and see him at Christmas.

July, 1834.—This was the time I went to Cranagh, and had the fever, spent two months there in the way I have related above, read some Béclard's General Anatomy (1); returned to Dublin on the 8th of September of the year 1834; have paid nurse in advance until the 9th of December, 1834 (2). Read very hard for two months for the 3rd class examination, which I passed on the 15th of November, I believe the very day that my brother John returned the second time from sea; he had been in the "Rover," 18-gun sloop, in the North Sea at the time of the siege of Antwerp, which was bravely defended by the Dutch General, Chape. After that he was at Alexandria and Tripoli, where the Arabs were besieging the town; he passed both of his examinations, seamanship abroad, and navigation a short time ago in

(1) *Elémens d'anatomie générale ou de tous les genres d'organs qui composent le corps humain.* Par P. A. Béclard. Paris, 1823. Béclard's Elements of general Anatomy. Translated by Robert Knox. Edinburgh. 1830.

(2) The nurses in Steevens' Hospital at this time attended to the resident pupils' rooms and acted as their servants, for which service they were paid by the students.

Portsmouth, where my uncle Harry has a barrack at present. He spent about a week here with us; we were at Baldoyle, where my uncle Mark and his wife are now; he came home to be present at Selina's wedding, which will take place in December, I believe. Henry went home for the same purpose.

John Hely and I went out to Bray, where the Helys were staying after their marriage. I dined and slept there. They came into Gresham's Hotel. My Aunt Ann is stopping at Eccles Street; John Hely and I agreed to walk home to Johnstown for Christmas. We set out from Dublin at two in the morning, after a good row at the Exchange, in which John bore a part, and I assisted in expelling the arch-agitator from the theatre of his long uninterrupted seditious meetings. We walked to Monastereven the first day, to Johnstown the next, had some pleasant duck and snipe shooting, dined on Christmas Day at Cranagh. My brother John and I went for a week to Melross, where the Helys are now settled. Returned to Dublin.

January 26, '35.—Walker called here to-day; paid him £1. This spring Henry and Westropp joined in a grinding speculation. I used to go into William Street with him every day at 11; continued for about six weeks, got a green frock coat from Walker, March 1st, 1835.

March 29, '35.—McEvatt returned my boots, which he had since March 1.

May 10, '35.—Henry went to the country to-day in a bad state of health after his year's clerkship. Paid washing 10s.

May 22.—I have been examined to-day by Hart (1) on the physiology of the nerves, next on the anatomy of the prostate and prostate glands, of which I missed not a word; then on the bloody tumour of the scalp. Adams (2) on Medical Jurisprudence.

May 16.—Sold a feather bed to Mrs. Morgel (3) for £1,

(1) John Hart, M.R.C.S.I., was one of the Assistants on the Court of Examiners in the College of Surgeons. He lived at 14 Stephen's Green, North, and was Professor of Anatomy in the College School from 1837 to 1853.

(2) Robert Adams at this time a Censor, and afterwards President of the College of Surgeons. He lived at 11 Great Denmark Street. He died January 16, 1875.

(3) Mrs. Charlotte Morgell, Matron at Steevens's Hospital from April, 1817, till February, 1845.

four stone; dined at Eccles Street yesterday; not gone to French Street (1).

May 18.—Removed to French Street. Carriage cost 5s.

May 21.—Have been boating all day at Kingstown; 2s.; have only 4s. 6d.; received a letter with £5; will have to pay £3; dined at the Finish, 3s. 3d.

May 23.—Have been at Kingstown all day with Boswell; paid 1s. to be let out of the Killiney hill.

May 24, '35.—Have been made an Orangeman to-day; fee 7s. 6d.; paid Nurse Bryan 1s. 6d. for washing; sundries, 3s. 6d.

May 25.—Paid Benson (2) for subjects dissected in '33, '34, 16s. 6½d. Received my certificate.

Monday—Went to the theatre with Boswell, Massancello, [? Masamello], 3s.

Wednesday.—Pulled a good deal about the bay, four oars; spent 1s. 6d.

Thursday.—Went to the review with Osbury; dined at Foley's; 2s.

Friday.—Bought letter paper, 5d.; pens 5d.; wrote home.

May 26.—Saw Mun, have £1; going to boat to-morrow.

Saturday, 27.—The two Richards, bow oars; two Greys, John Dunne, and myself midship; Hely and John Grey stroke. O'Reilly, West, Wall, Grey, supernumeraries; pulled to Howth round by the Bailey light, remained some time there, pulled home again; my hands not much the worse; had coffee and eggs at the hospital; spent 2s.

May 28, Sunday.—Eat no breakfast; did not go out to dine as I had promised; no razor; bought tea, 1s. 4d.; have a bad cough, a bad cold.

June 1st.—Dined at Killiney's (3).

35/2. Paid Benson £2 2s. for dissections; dined at Finish, 2s. 2d.

June 3.—Hely, Richards, Bell, and I pulled to Merrion, where, the tide being almost out, we stranded; I jumped out

(1) French Street, a small street off York Street, Dublin. Since 1860 it has been known as Upper Mercer Street.

(2) Charles Benson, one of the Demonstrators of Anatomy in the College of Surgeons. In 1836 he was appointed Professor of Medicine in the College School, and in 1854 was elected President of the College. He died January 21, 1880.

(3) Owen Killeen, proprietor of the Carlisle Tavern, 30 Bachelor's Walk.

and pushed her off three times; landed at the railway, took in John Grey, pulled home with four oars, unpleasant day; we were wet the greater part of it.

June 4, '35.—Went to Seevens' Hospital; saw Wild (1) very ill in fever.

June 5.—Had a letter from Harry, who is at Templemore.

June 6.—Spent a day at the Zoological Gardens with Vesey's; dined at the Trafalgar Tavern (2); went to Vesey's lodgings on the quay, drank punch, played backgammon.

Monday, June 7.—Very sick, headache; went to the College of Surgeons; paid Kit for my ticket, 1s. 6d., rowing about the river.

June 8.—Chs. Hely is in town; rowed to the lighthouse; caught two gurnet, shot five brace of gulls.

June 9.—At the Fellowship examination; dined at Macken's (3); went and bathed at Kingstown; came home on a car.

June 10.—Wrote to Harry; sent his book in a box.

June 11.—To-day a full boat's crew pulled to Kingstown; dined there; went on board the convict ship and also on board the "Shamrock" revenue cruizer.

Monday.—I am completely stuck for money; have not written home.

June 14.—Borrowed £1 from John Hely; John has come to town on his way to Portsmouth; got from him £1 5s.

June 16.—Walking about all day with John; went out to see Mun at school; dined at the Ropers, went to the gardens.

June 17.—The captain started for England in the Shannon steamer; dined at the Finish; one of the crew over board as they started.

June 18.—Went to the review very tiresome, to see Mr. Wood.

June 20.—Boating to-day; crew, Hely, Brown, Grey, Richards, and I; stiff north-west breeze, squally; pulled to Kingstown and from that to Dublin in an hour.

(1) Afterwards Sir William Wilde. Then an apprentice of Abraham Colles in Steevens' Hospital. Wilde qualified in the College of Surgeons in 1837, and in 1844 opened St. Mark's Ophthalmic Hospital in the premises formerly occupied by the Park Street Medical School. Park Street was in 1862 renamed Lincoln Place.

(2) The Trafalgar Hotel, 5 Burgh Quay, was owned by Horatio Ball.

(3) Thomas Macken, hotelkeeper, 12 Dawson Street.

June 22.—Paid £1 to Dowling's wife; owe her £3 11s. 6d.

June 23.—Went out boating, six hands, hired a steersman, wind N.W., squally; caught by a squall at the lighthouse, pulled up under its shelter; I leaped on shore with the painter, held her there till it blew over, pulled for an old wreck, made fast to it; went in to Kingstown.

June 24.—Walking about Ringsend looking at ships.

June 25.—Mun came here from school; we dined at the Northumberland (1).

June 26.—Slept badly; bought 5 lbs. of tea; Mun and I dined at the Northern; borrowed £1 from John Hely.

June 28.—Sent Mun home; found myself very ill; to bed; got up this evening; John Harbowin called here; paid 2s. 6d. McEvatt called here; had no money for him; owe £1 11s. 6d.

June 29.—Much better; wished I was assistant surgeon to any ship.

June 30.—Spent to-day strolling about looking at ships.

Tuesday, July 1.—Dined at Baggot Street Hospital; visited a yacht at Mr. Coppinger's, burthen 38 tons, lying in the basin.

July 3.—Went with a crew of six to sea; the swell was too heavy at the lighthouse, did not go past it; had a great lunch and heavy drink on the wall.

July 5.—Wrote home for money; went to Baggot Street Hospital; walking about; dined and slept at Baggot Street.

July 9.—Received a letter with £5, which I must economise; dined at the Northumberland; drank tea at Eccles Street.

Tuesday.—Bought a rowing vest for the regatta.

July 10.—Paid John's wife 10s., owe her 15s.; bread, butter, sugar, 11d.

July 11.—First day of the regatta; went there with Ned Roper; boat, dinner, travelling expenses, 4s.

Thursday, 12.—Bought a cotton cheque shirt, 3s., railway, 1s.; the Kilrush boat and crew won to-day again.

July 13.—From the far end of the east pier I saw all the boats start; the "Fanny" won the time race; expenses 3s.

July 14.—Paid J. Hely £1 I owed him; slept on board the yacht.

July 16.—Paid Dowling £1; set sail for Kingstown in the

(1) Northumberland Hotel, Eden Quay. Proprietor, John Charles Joseph.

boat with Connor; the wind fell, and the swell was very great; nearly lost our spars; got into Kingstown soon after; slept on board in Hely's berth; Hely gone in to town.

July 17.—Breakfast on bread and milk; dined at Tenniller's

July 18.—Remained at home reading.

July 20.—Took a walk round by Rathgar and Donnybrook.

Monday, July 21, '35.—Reading Blackwood's magazine.

July 22.—Walker (1), my tailor, called here to dunn; no cash.

July 23.—In the evening I received letter from home.

Thursday, 24.—Went to the Spanish Depot; saw the embarkation; when I came home had a letter from my father telling me to apply to Mr. Callon for £31 10s., his dividend; showed the letter and got £33 9s.; gave a receipt; bought another cheque shirt and socks, 7s. 7d. paid; returned Gerald Osbrey his book.

Saturday, 26.—Lodged the £10 to my Uncle Harry's credit; walked to McEwatt, paid him £1; went to the Zoological Gardens.

Monday, 29.—Paid Dowling 12s. 6d.; Walker called here while I was out.

Tuesday, 30.—John Hely called here to-day; dined with him at the hospital (2); saw a contused and lacerated wound of the ankle from the ball of the great toe to the inner side of the os calcis, which was rough, and the tendon almost divided, the post. tibial nerve quite bare, and the artery could be seen pulsating, the post tibial tendon was bared. Mr. Harrison (3) put in three points of suture, one anterior, one under the malleolus, and another posterior to it; the wound dressed with lint dipped in blood; there were

(1) William Walker, tailor, 21 Crow Street.

(2) Probably the Charitable Infirmary, Jervis Street, where Robert Harrison was one of the Surgeons.

(3) Robert Harrison, one of the Surgeons of Jervis Street Hospital, was elected Professor of Anatomy and Physiology in the Royal College of Surgeons in 1827, and ten years later, in 1837, he became Professor of Anatomy in Trinity College. In 1856 he was appointed one of the Assistant Surgeons at Steevens' Hospital. He died at his house, 1 Hume Street, on April 23, 1858. Harrison was the author of the well-known "Dublin Dissector," which was the standard text-book in the Dublin Schools of Anatomy for over half a century.

globules of synovia in the blood. Went from that to Steevens' Hospital; packed up all the things, and sent them by a Thomas Street carman, 15s.; paid my landlord, Ould Gallagher, 3 for three months.

Thursday, July 31.—Took my seat in the Thurles coach, luggage 5s.; found Harry very ill with jaundice and salivation; he is something better.

Friday—Robert and John Rupel came here to see him.

Saturday, 2.—Went with Mun to Marradyke after plover.

Monday, 4.—Reading the *Lancet*; Harry, the same way, went out to ride; shot a crow.

Friday, 8.—Harry's things come all right.

Sunday, 10.—Walked to Templetuohy Church; beat the car there and back; while coming home fell into a ditch.

August 11, '35, Templemore.—Walked to Clewn Castle and Marradyke, went round by the wash, fine house, getting up hay; rain came on.

Tuesday.—Rode the grey mare round by "Loydsborough" and Park, home by the Birr road.

Wednesday, 13.—Reading the magazine on the subject of geology fossils; commenced to write a translation of Lucian; the Nevilles came here to-day; walking with them in the town; went to Ballyknockan in the evening; fell off the mare.

Sunday, 16.—Went in the car to church; poulticed my leg; continued poultice; reading Lucian.

23.—Went with Harry in the gig to Melross; after had one day's walking on Lord Carrick's bog, only killed one bird; Harry is a great deal better.

September 10.—Came home from Melross; pistol shooting; Henry and Ed. Walsh at Mary Mount.

16.—Old Porteus and I out by the way of shooting, spotting the houses of the tithe owners; killed a horn-shaw after a long hunt.

October 1, '35.—Terrible wet weather this last fortnight, during which I have been reading the history of the war; Butlers gone away; since the first have been shooting about here.

29.—Tom Neville is dead; got a pair of Trews; Henry is gone to Kilkenny; my hand very sore where the cow bit me in endeavouring to extract a potato from her throat. After this my father got assistance from the Lay Association to

proceed for his tithes in the Exchequer, and I was employed serving the lads with notice, after which I was always obliged to ride about with pistols, which I did until I left; Henry went to a place near this to try for a dispensary, which he did not get, Kinity (1); a comet appeared this winter for a good time visible; Henry went to Ballybrittas (2), where the dispensary was vacant; but Powell, of Richhill, got it, and Henry got Powell's, where he went to take possession at the same time that I went to Maunsell's (3) to attend midwifery.

Wednesday, December 3, 1835.—Left Templemore for Dublin by Roscrea in a caravan!!! received from my father £21.

5th.—Bought a hat, £1 3s.; paid Evans 2s., paid O'Keife for putting down my name for lectures £4 4s.; received from Henry to pay gun 15s.; ordered a coat from Gately (4), £3 10s.; paid Maunsell £5; boots vamped 12s. 6d.; attended my first midwifery case.

Monday, December 14, 1835.—Visited the Meath Hospital; went round with Graves (5); will attend there; was called up four times last night.

December 22.—The weather is very cold; thermometer in my room 8° below zero; had a case in Trinity Place; retained placenta; got Maunsell to extract it. Went this evening to Steevens'; drank tea with Crampton (6); left with him Cheselden's Anatomy and Lloyd's book on Scrophula for library.

December 25.—X Mass. The woman in Trinity Place is very well, but the pulse is 130; no pain in the hypogastrium, but a very slight tenderness; no fever. Thomas dined at Eccles Street.

(1) Kinnity, a parish in King's County, near Birr.

(2) Ballybrittas, in Queen's County.

(3) Henry Maunsell, Professor of Midwifery in the College of Surgeons from 1835 to 1841. In 1860 he purchased the *Dublin Evening Mail*, and from that time to his death in 1879 he devoted himself to journalism.

(4) Thomas Gateley, tailoring establishment, 17 Corn Market.

(5) Robert James Graves, M.D., the celebrated Physician of the Meath Hospital, who held office there from July, 1821, to October, 1842.

(6) Cecil Crampton, M.B. In 1841, he succeeded William Colles as Resident Surgeon at Steevens' Hospital. He died in office on April 22, 1844.



December 29.—My father came to town to-day; went to see my Uncle Harry.

January 2, '36.—Received a parcel from Bara; left the pistol to be mended, the letters to be engraved, and sent them off.

January 4.—Left with Osbrey his botany and two French books.

January 12.—We have established a mess; got a receipt from the butcher for £3 11s. 6d.

February 10.—Received a cheque for £5 to pay for tea.

February 15.—Had a breech presentation in Mary Street.

February 18.—Found that the tea went to Templemore in mistake.

February 26, '36.—Had a letter to-day from Henry, from which I learnt the death of my dearest sister, Letitia, sent by the mail his letters.

27th.—Walking about the shipping, endeavouring to wipe away the remembrance of our great loss.

March 2.—A letter from home with an order on Ball's Bank for £37; laid out £2 14s. in mourning.

March 3.—Lent John Hely £3 10s., paid him 10s., paid McEvatt 14s., bought a hat for my father, £1 2s.

March 4.—Bought cloth, £3 5s. 1½d.; wrote home; sent a bank post bill for £24; wrote to Mary; for booking parcels 3d., Calvert's theatre 6d., supper 3s. 6d.

March 6.—Dined at Maunsell's; eyeglass 5s.

March 10th.—Went to Steevens'; breakfast with Cramp-ton; gave to one of my patients 6d.

March 12.—Attended Medico-Chirurgy Society (1); Crawford read a very good paper on cancer.

March 13.—Went with J. Hely to Kingstown, 2s.; dined at O'Hara's (2), 2s. 8d.

March 15.—Went to Steevens'; a case of paralysis from tumour in neck; letters from home; sent a hat and letters by Bradly.

March 19.—Went with Hely to bring home the gig from

(1) The Dublin Medico-Chirurgical Society. Established November, 1835, by the Medical Students of Dublin for the advancement and improvement of students in every branch of medicine and surgery. Afterwards one of the constituent societies of the Academy of Medicine in Ireland.

(2) Probably Daniel O'Hara, Shell-Fish Tavern, 1 French Street.

Merrion; had to nail canvas on the bow to keep her tight; got on well as far as the lighthouse, but there was met the returning tide; had to strain every nerve to pull her through; at length moored her safe at Ringsend.

March 22.—Saw Cusack (1) tie the carotid for aneurism.

March 23.—Have £2; must do me for four weeks.

March 31.—Good Friday; sent the rest of the circulars; was discovered by Walker, who asked me to pay him my bill; got £2 from Hely.

April 4.—At an Orange supper, at the circus; Richards failed at his wager.

April 8.—The statue of King William blown up.

April 9.—Henry informed me that he succeeded in Trillick (2).

April 13.—Spent this day at a Grand Lodge meeting.

April 15.—Had a letter from home with a cheque for £8 7s.; ordered a pair of trews; paid Hely £1; paid tailor £1; theatre 1s.

April 24.—Went to Kingstown; dined there; had a row with the carman.

April 25.—Painting the boat.

April 26.—Saw a flap operation of forearm.

April 27.—Got my certificates, M. Medica, M. Jurisprudence, Surgery.

May 3.—A letter from Henry; bought a McIntosh.

May 8.—Moore and Hunter (who are both dead since, one in Limerick and the other at Madras) returned from Glasgow; we all, with Gelstone, supped at O'Hara's on leaving which place we got up a row with two watchmen, who were well beat; they got away, however, and brought back about twelve others, who soon turned the tables; Somerville was knocked down and eight of us arrested and

(1) James William Cusack. He was born in 1788 and studied medicine in Steevens' Hospital. In 1812 he passed the College of Surgeons, and on February 10, 1813, succeeded Abraham Colles as Resident Surgeon at Steevens' Hospital. He remained in office for twenty-one years till appointed one of the Assistant Surgeons. In 1827, while still Resident Surgeon, he was elected President of the College of Surgeons. For many years, till his death on September 25, 1861, he occupied a leading position among the surgeons of Dublin.

(2) Trillick, in County Tyrone, where Henry Thompson was appointed Dispensary Medical Officer.

fined 30s. each; lent J. Hely £1; he and Chas. came here to-day.

May 9.—William Colles called here from France; borrowed 30s.; C. Hely bought a hat, 9s.; owe Motherwell 8s.

May 13.—Paid Dillon 2s. 2d.; received £5 from home; had a letter, Henry, with £2 to buy tools.

May 16.—Sent the instruments to Henry.

May 21.—At the Medico-Chirurgy meeting.

May 19.—Returned Gerald Osbrey's pistoll and thermometer.

May 24.—Had a breech case to-day.

May 25.—Dined with Osbrey.

May 26.—At O'Hara's with Vesey, Banks, and Bigs.

June 4.—Reading Cooper on the testicle; wrote home.

June 9.—Letter from home.

June 10.—Paid Courtney 2s., Hely 3s., a scarf, 9d.; paid O'Hara 7s. 6d., washing 2s. 6d., Porter 1s.

June 11.—Dined at home and rede Porter on bone.

June 13.—A case in which there was a great tumour of the scalp, in doubt what was the presentation.

June 17.—Grind on exostoses, a disease of which I knew very little.

June 22.—Letter from home; Somerville's trial came off; am accompanied by my father to buy a pistol.

June 24.—Helping Hely to put in ballast.

June 26, 1836.—Went with Hely, Courtney, and Hart to the Three Rock Mountain; dined in a cabin, consumed a deal of mountain dew; came home about three o'clock next morning.

June 28.—Dissecting.

June 29.—Dissecting.

June 29.—Sailed out to Kingstown with Hely

July 2.—Had a letter from home, lodged a bill for £140 to my father's credit; got £7, paid by Ryan £5, £2 Maunsell, owe him £5 more.

July 17.—Have neglected grind this week past.

July 16.—Paid to Parsons the amount of Henry's bill, £19 7s. 7½d.; have been boating and idling most of this month.

July 24.—Had a letter from home with £5, ordered a coat, £3 10s.; paid O'Hara 6s. 6d.

July 26.—Dined at Steevens' with W. Colles.

August 8.—At a case of twins with Maunsell for nineteen hours.

August 9.—Went to sail in the bay with the boat full of ladies; becalmed off Howth; spent the night on board, where poor Green, who died since of fever, amused us with his stories; paid Parsons £3; had a letter from home.

September 11.—Walked to Malahide, home by Baldoyle.

September 16.—Paid McEvatt 10s., owe him £2 5s.

October 12.—I am 20 to-day; dined at O'Hara's in the evening; at Bull's got into a fight; Brown and I well beat by six or seven fellows; J. Hely lodged a pound for him and me; in the morning went to College Street; no prosecution.

October 14.—Wrote home by C. Hely.

October 15.—Had a letter from Kilkee with £3; theatre 1s. 6d.; paid O'Hara 7s. 4d., Mrs. Hill 4s., wash 4s., Chamb. 4s.

October 17.—Bought mutton 6s. 6d., vegetab. 10, 7s. 4d.

October 19.—Paid McEvatt 15s., owe him 30s. yet.

October 21.—Expense of mess for week 17s. 8d., each 4s. 5d.; had a letter from home; our poor Mary has died of typhus fever at Kilkea.

October 25.—Left Dublin by the Cork Mail on this day; went first to Melross, on to Templemore, where B. Nevile came soon after; my father and the family came soon; they left poor Mary at Kilrush; remained in the country three weeks.

November 16, '36.—Arrived in Dublin from the country; got from my father £30 1s. 10d.; £7 for myself and £1 5s. to buy things for mother; bought the stuff at Tod and Burns, trews £1 7s.; paid for Hely's ballast £1 5s.

November 26.—Lodged my money in bank; gave bank receipt to O'Keefe.

November 28.—Entered at Fannin's (1) reading rooms, 14s.

December 17.—Received £5, paid Umpiby 13s., Ryan 6s., Evening Mail £1 16s., O'Keefe £1 for stamp. Since I entered at Fannin's I have been reading and grinding at the rate of 11 hours a day; never was better or pleasanter. Maunsell had a letter from my father saying that I was ap-

(1) Fannin & Co., Medical and Literary Institution, 41 Grafton Street.

pointed to a ship; he got Jacob (1) to apply for an extra day, and I got the first on the new court.

January 17, '37.—Have put in my first day's examination taken by Palmer (2) on the testicle hernia, by Hart on General anatomy of, by Harrison on fauces, Tongue.

January 23.—Passed the College, examined by Rumly (3) on fever, by Mr. Colles on inflammation of bladder, nævi; answered well.

January 24.—Hair cut; went to the Protestant meeting.

January 27.—Received from my father £10.

January 31.—Became very ill this morning with sore throat and fever.

February 1.—Sent for Colles; confined to bed for a week with influenza.

February 8.—Had a letter from John, who is at Malta; wrote to him; settled mess bill.

February 11.—At an examination at the College.

February 12.—Went to church.

January 13.—Had my certificate of residence signed by Cusack, Wilmot (4).

February 14, '37.—Left my gun at Calderwood's (5) to be repaired, charge 35s.

February 16.—Arrived at Kilkenny this evening; came out (17th) next morning to Melross, heard that my people were gone to Clonmel to spend some time, and I remain here.

March 20.—Have been here now one month doing little good but shooting, and a few days playing cricket, shot two

(1) Arthur Jacob, one of the Professors of Anatomy in the College of Surgeons from 1827 to 1868, was in 1837 President of the College. He was the first to describe the "rodent ulcer," which was often known as "Jacob's ulcer."

(2) Abraham Palmer, M.R.C.S.I., was a member of the Court of Examiners of the College of Surgeons. He lived at 38 York Street.

(3) Thomas Rumley, M.R.C.S.I. He was a member of the Court of Examiners at the College of Surgeons, and in 1841 was elected President of the College.

(4) Samuel Wilmot, M.D., was President of the College of Surgeons in 1815 and in 1832. In 1826 he was appointed Professor of Anatomy and of Surgery in the College School. The former chair he resigned in 1827, but held the chair of Surgery till 1836. In 1814 he was appointed one of the Assistant Surgeons at Steevens' Hospital, and continued in office till his death on November 7, 1848.

(5) Thomas Calderwood, gunsmith, 14 North Earl Street.

hares, one in the evening before Patrick's Day. I intend to set out for the North some day next week; must get shirts, socks, and my gun before I go; have got eight shirts made.

April 14, '37.—Father and mother at Clonmel; the grey horse laid up with a sore shoulder; punctured it and gave exit to some brownish serum; closed it again; in about a week it broke of itself and got well.

May 8, '37.—My father and I started for Frankford to-day by Bourea, Roscrea; slept at Birr.

June 2.—Met at Frankford four L.R.C.S.I. whom I knew; heard that Cook got the dispensary; bought and had made two pairs of trews, two vests, price 22s. I must go to Dublin for my diploma.

June 26, '37.—Cannot remember the day I left Templemore; it was the same that my father and Kate went to Edgeworthstown for Mun; came to Melross in the gig with James, spent about a week there; went to John Maguire at the Wood of Inch; bought at Quinn's a scarf and stock 10s. 4d.

Left Melross on the 3rd of July, 1837, for the ostensible purpose of procuring the midwifery diploma; stopped three days at Hughes (1), Duke Street; bill 19s.

July 4.—Bought 4 lb. of tea at 4s. 8d.; sent this home.

#### END OF THE DIARY.

(1) James Hughes, hotelkeeper, 16 Duke Street.

#### NEW AMERICAN TARIFF.

WE have received from the Dorland Agency, Ltd., 3 Regent Street, London, American Merchandising and Advertising Specialists, a complete table of the new American Tariff Law published in book form. Schedule A. includes "Chemicals," many of them included in the *Materia Medica*, and the "Free List" also contains many drugs, so that the new tariff is of direct interest to the Medical Profession. The Table clearly shows the new tariff as compared with the old, and the entire schedule is enormously simplified. Manufacturers and traders can obtain a copy post free for 1s., and the rapidity with which it has been prepared and published within a few days of the passing of the Act is a striking tribute to the enterprise and foresight of the publishers.

## ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At the Stated Annual Meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on St. Luke's Day, October 18th, the following officers were elected for the ensuing year:—

President—Dr. Charles E. Fitzgerald.

Vice-President—Dr. James Craig.

Censors—Dr. James Craig, Dr. T. G. Moorhead, Dr. A. Nixon Montgomery, and Dr. T. Henry Wilson.

Examiners for the License to practise Midwifery—Dr. Hastings Tweedy and Dr. Gibbon FitzGibbon.

Additional Examiners to take the place of an absent Censor or Examiner—Medicine: Dr. Alfred Parsons. Midwifery: Dr. Norman Holmes. Medical Jurisprudence and Hygiene: Dr. H. T. Bewley.

Supplemental Examiners under the Conjoint Examination Scheme:—

Biology—Dr. MacDowel Cosgrave.

Chemistry—Dr. Edwin Lapper and Dr. Ninian Falkiner.

Physics—Dr. W. G. Harvey and Dr. Rowlette.

Pharmacy, Materia Medica, and Therapeutics—Dr. Travers Smith and Dr. D. J. O'Connor.

Physiology—Dr. H. C. Earl.

Pathology.—Dr. F. C. Purser.

Medicine—Dr. J. F. O'Carroll and Dr. H. C. Drury.

Hygiene and Forensic Medicine—Dr. W. A. Winter.

Extern Examiners for the Conjoint Preliminary Examination:—

Languages—Mr. E. H. Alton, F.T.C.D.

Mathematics—Mr. R. A. P. Rogers, F.T.C.D.

Irish—Mr. Edward de Valera, B.A., R.U.I.

Examiners for the Diploma in Public Health:—

Chemistry—Professor E. Lapper.

Hygiene—Dr. F. C. Martley.

Bacteriology—Dr. H. C. Earl.

Meteorology—Dr. Matson.

Examiners for Membership:—Clinical Medicine: Dr. James Craig, V.-P.

Practice of Medicine—Dr. T. G. Moorhead and Dr. Martin Dempsey.

Pathology and Bacteriology—Dr. H. C. Earl and Dr. A. C. O'Sullivan.

Midwifery and Gynæcology—Sir William Smyly and Sir Andrew Horne.

Representative on the General Medical Council—Sir John Moore.

Representatives on the Committee of Management—Dr. Walter Smith, Sir John Moore, and Dr. T. P. C. Kirkpatrick.

Treasurer—Dr. H. T. Bewley.

Registrar—Dr. T. Percy C. Kirkpatrick.

Librarian—Mr. R. G. J. Phelps.

Law Agent—Messrs. S. Gordon & Sons.

Land Agent—Messrs. Townsend.

Architect—Mr. Albert Edward Murray.

#### ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

At a meeting of the College, held on October 15th, the following gentlemen, having passed the requisite examinations on the 12th of July, 1913, were admitted Fellows:—Henry Ernest Arbuckle, M.D. Univ. Edin., D.P.H. Camb., West African Medical Service; James Freeborn Bennett, M.B., Ch.B. Univ. Glasg., Marlborough, New Zealand; John Douglas Fiddes, M.B., Ch.B., Univ. Aberd., Aberdeen; Percy Leslie Foote, M.B., Ch.B. Univ. N. Zeal., M.R.C.S., L.R.C.P. Lond., New Zealand; McWilliams, Henry, L.R.C.S.E. (Triple Qual.), Halifax, Yorks; Harry Foster Holmden, M.B., Ch.B. Univ. Edin., Edinburgh; Harris Coburn Mersereau, M.D., C.M. Univ. McGill, New Brunswick, Canada; John Joseph Harper Nelson, M.D. Univ. Edin., Captain, Indian Medical Service; Ardeshir Behramshah Pestonji, L.M. & S. Univ. Bombay, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H. Camb., London, N.W.; Richard Francis Steele, M.B., Ch.B. Univ. Dubl., Captain, Indian Medical Service; Howard Martin Blenheim Stratford, M.R.C.S. Eng., L.R.C.P. Lond., London, W.; Arthur Richard Thomas, M.R.C.S. Eng., L.R.C.P. Lond., Staff Surgeon, Royal Navy; Stephen Harold Middleton-West, M.B., Ch.B. Vict. Univ., Manc., M.R.C.S. Eng., L.R.C.P. Lond., Captain, Indian Medical Service; and Hiram Bardsley Wyman, M.D., C.M. Univ. McGill, L.R.C.S.E. (Triple Qual.) Quebec, Canada.



# SANITARY AND METEOROLOGICAL NOTES.

## VITAL STATISTICS.

*For four weeks ending Saturday, October 4, 1913.*

### IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended October 4, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 18.0 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, October 4, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000 :—

COUNTY BOROUGH, &c.	Week ending				Average Rate for 4 weeks
	Sept. 13	Sept. 20	Sept. 27	Oct. 4	
<b>27 Town Districts</b>	<b>21.1</b>	<b>19.8</b>	<b>21.0</b>	<b>18.0</b>	<b>20.0</b>
Dublin Reg. Area ...	23.2	18.1	21.2	20.1	20.6
Dublin City ... ..	23.7	18.1	22.8	20.8	21.3
Belfast ... ..	20.4	21.1	19.5	13.2	18.1
Cork ... ..	26.5	30.6	24.5	21.8	25.8
Londonderry ... ..	19.1	22.9	22.9	21.6	21.6
Limerick ... ..	27.1	10.8	17.6	23.0	19.6
Waterford ... ..	5.7	13.3	26.6	38.0	20.9

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, October 4, 1913, were equal to an annual rate of 4.3 per 1,000. Among the 100 deaths from all causes in Belfast were 3 from scarlet fever and 16 from diarrhoeal diseases. Included in the 32 deaths from all causes for Cork

were 5 from diarrhoea and enteritis of children under 2 years. Eight of the 17 deaths from all causes for Londonderry were from diarrhoea and enteritis of children under 2 years. Among the 20 deaths from all causes for Waterford were 6 from diarrhoeal diseases. The 3 deaths recorded for Galway were from whooping-cough. Included in the 9 deaths from all causes for Lisburn were one from enteric fever and 2 from diarrhoea and enteritis of children under 2 years. Six of the 7 deaths recorded for Portadown were from diarrhoea and enteritis of children under 2 years; and 2 of the 4 deaths from all causes for Ballymena were from diarrhoea and enteritis of children under 2 years. Included in the 7 deaths from all causes for Tralee were 2 from diarrhoea and enteritis of children under 2 years. Three of the 8 deaths for Queenstown were from diarrhoea and enteritis of children under 2 years of age; and one of the 5 deaths from all causes for Newry was from measles.

#### DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 403,000; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended October 4 amounted to 225—132 boys and 93 girls, and the deaths to 163—83 males and 80 females.

#### DEATHS.

The deaths registered, omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 20.1 per 1,000 of the population. During the forty weeks ending with Saturday, October 4, the death-rate averaged 20.5, and was 1.4 below the mean rate for the corresponding portions of the ten years, 1903–1912.

The total deaths registered, numbering 163, represent an annual rate of 21.1 per 1,000. The annual rate for the past forty weeks was 21.9 per 1,000, and the average annual rate for the corresponding period of the past ten years was 23.0 per 1,000 of the mean population for all deaths registered.

The deaths included 1 from whooping-cough, 3 from diphtheria, 1 from influenza, 2 from enteric fever, 2 from scarlet fever, and 26 deaths from diarrhoea and enteritis of children under 2 years. In each of the 3 preceding weeks deaths from scarlet fever had been 0, 2, and 0; deaths from enteric fever had been 6, 1, and 1; deaths from diphtheria had been 1, 0, and 0; deaths from whooping-cough had been 2, 0, and 0; deaths from influenza had been 0, 1, and 1; and deaths from diarrhoea and enteritis of children under 2 years had been 37, 25, and 33.

Of 19 deaths from tuberculosis (all forms) 13 were attributed to pulmonary tuberculosis, 3 to tubercular meningitis, and 3 to disseminated tuberculosis. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 29, 16, and 22.

There were 11 deaths from cancer, or malignant disease.

The deaths of 4 children were caused by convulsions, 3 being infants under one year of age. There were 5 deaths of infants from congenital debility, and 5 deaths from premature birth.

The deaths from pneumonia included 2 from broncho-pneumonia, and 2 from pneumonia (type not distinguished).

Fifteen deaths were caused by organic diseases of the heart. There were 11 deaths from bronchitis.

There were 4 accidental deaths, including 2 caused by drowning.

In three instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases were all infants under one year of age.

Fifty-eight of the persons whose deaths were registered during the week were under 5 years of age (43 being infants under one year, of whom 11 were under one month old), and 37 were aged 65 years and upwards, including 30 persons aged 70 and upwards; among the latter were 14 aged 75 and upwards, of whom one (a female) was stated to have been aged 90 years.

#### STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act,

1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; by the Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast during the week ended October 4, 1913, and during each of the preceding three weeks. An asterisk (\*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Croup	Pyrexia (origin uncertain) <sup>a</sup>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis ( <i>Phthisis</i> )	Acute Polio-myelitis	Total
City of Dublin	Sept. 13	•	•	11	-	-	6	-	1	8	4	-	•	-	13	-	4
	Sept. 20	•	•	22	1	-	1	1	1	17	1	-	•	-	16	-	4
	Sept. 27	•	•	17	-	-	8	-	2	15	6	-	•	-	16	-	6
	Oct. 4	•	•	22	-	-	7	-	1	8	5	-	•	-	17	-	6
Rathmines and Rathgar Urban District	Sept. 13	•	•	1	-	-	1	-	-	1	-	-	•	•	•	•	•
	Sept. 20	•	•	3	-	-	-	-	-	-	-	-	•	•	•	•	•
	Sept. 27	•	•	-	-	-	1	-	-	1	-	-	•	•	•	•	•
	Oct. 4	•	•	1	-	-	1	-	-	-	-	-	-	•	•	•	•
Pembroke Urban District	Sept. 13	-	-	1	-	-	-	-	-	-	-	-	3	*	-	•	•
	Sept. 20	-	-	-	-	-	-	-	-	-	1	-	-	-	1	•	•
	Sept. 27	1	-	1	-	-	1	-	-	-	-	-	5	*	-	•	•
	Oct. 4	-	-	-	-	-	1	-	-	1	-	-	2	*	-	•	•
Blackrock Urban District	Sept. 13	•	•	-	-	-	2	-	-	-	-	-	•	-	•	•	•
	Sept. 20	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	•
	Sept. 27	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	•
	Oct. 4	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	•
Kingstown Urban District	Sept. 13	•	•	-	-	-	-	-	-	-	-	-	•	*	-	•	•
	Sept. 20	•	•	-	-	-	-	-	-	-	-	-	•	*	-	•	•
	Sept. 27	•	•	-	-	-	1	-	-	-	4	-	*	*	7	•	1
	Oct. 4	•	•	-	-	-	1	-	-	-	-	-	•	•	-	•	•
City of Belfast	Sept. 13	•	•	57	2	-	8	-	1	4	10	-	•	•	13	•	9
	Sept. 20	•	•	45	-	-	3	-	-	1	3	-	•	d	4	2d	5
	Sept. 22	•	•	40	1	-	6	2	-	3	6	1	•	-	14	3	7
	Oct. 4	•	•	48	4	-	7	-	1	6	4	-	•	1	13	1	8

<sup>a</sup> Continued Fever

<sup>b</sup> Not including 3 cases of varicella.

<sup>c</sup> Not including 3 cases of poliomyelitis

<sup>d</sup> Notifiable as from 17th September.

### CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended October 4, 1913, 6 cases of enteric fever were admitted to hospital, 13 were discharged, and 55

cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 36, 49 and 62.

One case of typhus was admitted to hospital during the week, 2 were discharged, and 2 cases remained under treatment in hospital at its close. At the close of the 3 previous weeks the cases in hospital had been 4, 3, and 3 respectively.

Eighteen cases of measles were admitted to hospital and 32 cases remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases were one, 6, and 14 respectively.

Eighteen cases of scarlet fever were admitted to hospital, 5 were discharged, there was one death, and 91 cases remained under treatment at the close of the week. This number is exclusive of 18 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 65, 76 and 79.

Thirteen cases of diphtheria were admitted to hospital, 11 were discharged, and there were 3 deaths. The cases in hospital, which at the close of the 3 preceding weeks had numbered 31, 30, and 37 respectively, were 36 at the close of the week under review.

In addition to the above-named diseases, 10 cases of pneumonia were admitted to hospital, 9 were discharged, there were 2 deaths, and 30 cases remained under treatment at the end of the week.

## ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, October 4, in 96 large English towns (including London, in which the rate was 12.6) was equal to an average annual death-rate of 13.6 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 14.5 per 1,000, the rate for Glasgow being 14.8, and that for Edinburgh, 11.2.

## INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended October 4. From this Report it appears that of a total of 78 cases notified, 36 were of scarlet

fever, 24 of phthisis, 12 of diphtheria, 5 of erysipelas, and 1 of enteric fever. Among the 365 cases of infectious diseases in hospital at the close of the week were 171 cases of scarlet fever, 100 of phthisis, 51 of diphtheria, 16 of measles, 4 of whooping-cough, 8 of enteric fever, 6 of erysipelas, and 1 of chicken-pox.

#### METEOROLOGY

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of September, 1913.*

Mean Height of Barometer, - - -	29.952 inches.
Maximal Height of Barometer (7th, at 9 a.m.),	30.470 „
Minimal Height of Barometer (14th, at 4 p.m.),	29.030 „
Mean Dry bulb Temperature, - - -	55.7°.
Mean Wet-bulb Temperature, - - -	53.7°.
Mean Dew-point Temperature, - - -	51.8°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.390 inch.
Mean Humidity, - - - - -	87.5 per cent.
Highest Temperature in Shade (on 11th), -	70.0°.
Lowest Temperature in Shade (on 18th), -	41.5°.
Lowest Temperature on Grass (Radiation) (18th)	39.4°.
Mean Amount of Cloud, - - - - -	66.4 per cent.
Rainfall (on 13 days), - - - - -	4.310 inches.
Greatest Daily Rainfall (on 19th), - - -	1.652 „
General Directions of Wind, - - - - -	Variable.

#### *Remarks.*

The fine, dry weather of the summer of 1913 lasted till the 8th of September, on the afternoon of which day a shallow depression formed over Ireland within the limits of a large anticyclone covering the Atlantic and stretching across Central Europe to Russia. This system caused a general though not heavy rainfall. A rapid reduction of atmospheric pressure took place on the 11th and 12th in connection with the advance south-eastward from Iceland of a depression in which the barometer fell below 29 inches. On the 12th a secondary disturbance formed over Ireland, South Wales and the Cornish Peninsula. In connection with this system rain fell heavily, Dublin receiving 1.638 inches in the 48 hours ended 9 a.m. of Sunday, the 14th. At that time the centre of a well-marked cyclone lay over Wales. Thence it travelled back-

wards to and across Ireland, finally again doubling on its course and filling up over the Bay of Biscay. After a brief respite of fine but cold weather, a V-shaped depression arrived over Ireland from the Atlantic on the 19th. This system caused a downpour of rain on the east coast—1.652 inches being recorded in Dublin, 2.03 inches at Malahide, Co. Dublin, and 2.77 inches at Ardgillan, near Balbriggan, Co. Dublin. The precipitation was much less on the Wicklow coast. Another heavy rainfall occurred on the 22nd in connection with a large depression on the Atlantic off the west coast of Ireland. The changeable weather lasted to the 27th, but the closing days of the month were very fine, and a heat-wave passed over the greater part of England; the thermometer rose to 78° in London, and at Manchester, Nottingham, Bath and Malvern on Saturday, the 27th. That day was very wet in the west of Ireland, Blacksod Point having 1.14 inches of rain and Valentia .72 inch. In a violent thunderstorm which passed over the south of France on the 29th, 4.53 inches of rain fell at Perpignan and as much as 6.54 inches at Cap Béarn. At Cette the measurement was 1.85 inches.

In Dublin the arithmetical mean temperature (56.5°) was 0.6° above the average (55.9°); the mean dry-bulb readings at 9 a.m. and 9 p.m. were 55.7°. In the forty-nine years ending with 1913, September was coldest in 1886 and 1892 (M. T. = 53.0°), and warmest in 1865 (M. T. = 61.4°) and 1898 (M. T. = 60.2°). In 1912 the M. T. was 53.7°.

The mean height of the barometer was 29.952 inches, or 0.042 inch above the corrected average value for September—namely, 29.910 inches. The mercury rose to 30.470 inches at 9 a.m. of the 7th, and fell to 29.030 inches at 4 p.m. of the 14th. The observed range of atmospheric pressure was, therefore, 1.440 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 55.7°, or 3.4° below the value for August, 1913. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.*) × .476, the mean temperature was 56.3°, or 0.6° above the average mean temperature for September, calculated in the same way, in the thirty-five years, 1871–1905, inclusive (55.7°). The arithmetical mean of the maximal and minimal readings was 56.5°, compared with a thirty-five years' average of 55.9°. The mean maximum was

61.6°; the mean minimum was 51.4°. On the 11th the thermometer in the screen rose to 70.0°—wind, W. to S.W.; on the 18th the temperature fell to 41.5°—wind, W.N.W. The minimum on the grass was 39.4° on the 18th.

The rainfall was 4.310 inches on 13 days. The average rainfall for September in the thirty-five years, 1871–1905, inclusive, was 2.210 inches, and the average number of rainy days was 15. In 1871 the rainfall was very large—4.048 inches on, however, only 13 days; in 1896 no less than 5.073 inches fell on 23 days, establishing a record rainfall for September. On the other hand, in 1865, only .056 inch was measured on but 3 days. In 1912 only .570 inch fell on 8 days.

High winds were noted on 8 days, but never attained the force of a gale. Fog occurred on the 23rd and 27th. A lunar halo was seen on the 20th.

The rainfall in Dublin during the nine months ending September 30th amounted to 20.982 inches on 140 days, compared with 22.658 inches on 158 days in 1912, 12.599 inches on 120 days in 1911, 25.108 inches on 159 days in 1910, 18.493 inches on 134 days in 1909, 19.557 inches on 154 days in 1908, 17.140 inches on 153 days in 1907, 16.121 inches on 146 days in 1906, only 10.968 inches on 112 days in 1887, and a thirty-five years' average of 20.160 inches on 146 days.

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At the Normal Climatological Station in Trinity College, Dublin, the observer, Mr. C. D. Clark, reports that the mean value of the readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 57.2°. The arithmetical mean of the daily maximal and minimal temperatures was 56.6°, the mean maximum being 62.7°, and the mean minimum 50.5°. The screened thermometers rose to 72° on the 11th, and fell to 41° on the 18th. On the 19th the grass minimum was 37°. Rain fell on 10 days to the amount of 4.26 inches, the greatest fall in 24 hours being 1.60 inches on the 19th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 84.6 hours, of which 9.3 hours occurred on the 11th. The mean daily duration was 2.8 hours. The mean sub-soil temperatures at 9 a.m. were—at 1 ft., 58.1°; at 4 ft., 57.5°.

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At Ardgillan Castle, Balbriggan, Co. Dublin, 210 feet above



sea-level, Captain Edward Taylor, D.L., measured 5.54 inches of rain on 12 days, the rainfall being 3.65 inches above the average and the rain-days being 1 in defect. The total rainfall from January 1 amounts to 22.53 inches on 134 days. The rainfall is 1.74 inches above and the rain-days are 3 below the average. The maximal temperature in the shade was  $69.9^{\circ}$  on the 11th, the minimum was  $43.8^{\circ}$  on the 17th. Within the past 20 years September was driest in 1894, with a rainfall of 0.110 inch on only two days (the least in any month); wettest in 1896, the rainfall being 5.27 inches on 24 days; and in the present year (5.54 inches). The temperature of the sea, taken at high-water once daily, was  $59.2^{\circ}$ . The temperature of the air taken at sea level simultaneously was  $58.1^{\circ}$ . The maximal temperature of the sea was  $65^{\circ}$  on the 8th, the minimum was  $54^{\circ}$  on the 20th.

Captain Taylor has kindly furnished the following additional details of the cyclonic rainfall of September 19th, in the neighbourhood of Dublin. At Milverton Hall, Skerries, Captain E. G. Woods measured 2.50 inches of rain on that day. The total for the month was 5.37 inches on 13 days, the rainfall being 4.03 inches in excess of the average and the rain-days 3 in excess. At Milverton Hall, the rainfall from January 1st to September 30th amounted to 20.82 inches on 137 days, compared with averages of 18.74 inches and 133 days, respectively. At Stirling, Clonee, Co. Meath, about 8 miles N.W. of Dublin, Mr. J. Pilkington recorded 1.82 inches of rain on September 19th. The total rainfall for the month was 4.09 inches on 12 days; and from January 1st to September 30th, 22.59 inches fell on 140 days.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 4.91 inches on 13 days, the greatest fall in 24 hours being 2.03 inches on the 19th. The mean shade temperature was  $54.8^{\circ}$ , the extremes being—highest,  $70^{\circ}$  on the 11th; lowest,  $38^{\circ}$  on the 17th.

The rainfall recorded at the Ordnance Survey Office, Phoenix Park, was 4.095 inches on 13 days, the greatest measurement in 24 hours being 1.340 inches on the 19th. The total amount of sunshine at this station was 88.3 hours, the most registered on any one day being 10.1 hours on the 11th.

At Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, Miss C. Violet Kirkpatrick recorded a rainfall of 4.30

inches on 12 days, the maximal fall in 24 hours being 1.27 inches on the 19th.

At 21 Leeson Park, Dublin, Dr. Christopher Joynt, F.R.C.P.I., registered 4.270 inches of rain on 12 days, the greatest fall in 24 hours being 1.660 inches on the 19th. Up to September 30, the rainfall at this station was 20.195 inches on 131 days.

Dr. Arthur S. Goff reports that at Belfort House, Dundrum, Co. Dublin, the rainfall was 4.49 inches on 12 days. The greatest daily measurement was 1.60 inches on the 19th, but exactly an inch of rain fell also on the 13th. The temperature in the shade ranged from 71° on the 11th and 27th to 44° on the 18th. The mean shade temperature was 57.7°.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson recorded a rainfall of 4.55 inches on 15 days, the greatest fall in 24 hours being 1.49 inches on the 19th. The shaded thermometer rose to 70° on the 11th and 12th, and fell to 43° on the 17th and 18th. The mean temperature in the shade was 56.9°.

At Marino, Killiney, Co. Dublin, Mr. Wm. J. McCabe recorded a rainfall of 4.04 inches on 12 days, the largest measurements in 24 hours being 1.20 inches, on the 13th, and 1.18 inches on the 19th.

The average September rainfall at Cloneevin, Killiney, in 24 years (1885-1908) was 1.961 inches on 12.9 days.

At the Sanatorium of the Dublin Joint Hospital Board, Crooksling, Co. Dublin, Dr. A. J. Blake, Resident Medical Superintendent, recorded a rainfall of 4.08 inches on 17 days, the heaviest rainfall in 24 hours being 1.23 inches on the 19th.

Dr. J. H. M. Armstrong, M.B., reports that at Coolagad, Greystones, Co. Wicklow, the rainfall was 4.71 inches on 18 days. The heaviest fall in 24 hours was 1.15 inches on the 13th. At Coolagad the rainfall since January 1st, 1913, has been 28.91 inches on 146 days.

At Auburn, Greystones, Mrs. Sydney O'Sullivan recorded a rainfall of 4.25 inches on 16 days. The greatest rainfall in 24 hours was 1.07 inches on the 13th.

Dr. Charles D. Hanan, M.D., Resident Medical Officer, reports that at the Royal National Hospital for Consumption for Ireland, Newcastle, Co. Wicklow, rain fell to the amount of 4.01 inches on 14 days, the heaviest rainfall in 24 hours

being .95 inch on the 12th. The screened thermometers rose to 72° on the 11th and fell to 42° on the 16th. The mean maximum temperature was 62.1°, the mean minimum 50.4°, and the arithmetical mean temperature 56.3°.

The Rev. Arthur Wilson, M.A., returns the rainfall at the Rectory, Dunmanway, Co. Cork, at 6.97 inches on 18 days, the heaviest falls in 24 hours being 1.37 inches on the 22nd, 1.28 inches on the 24th, 1.16 inches on the 15th, .64 inch on the 14th, and .57 inch on the 18th. During the first 11 days of the month only .05 inch of rain was measured. During the 81 days from June 23rd to September 11th, the rainfall was only 1.75 inches, whereas 6.92 inches fell in the interval from September 12th to September 28th. The total fall in the completed 9 months of 1913 has been 47.97 inches, or 10.98 inches more than the average of the same period in 6 years (36.99 inches). The weather was warm, and on the wet days close. A night frost occurred on the 12th.

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ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, ROYAL COLLEGE  
OF SURGEONS OF EDINBURGH, AND ROYAL FACULTY OF  
PHYSICIANS AND SURGEONS OF GLASGOW.

THE following candidates, having passed the requisite examinations of the above Board in October, were admitted Diplomates in Public Health :—Alexander David Campbell, M.B., Ch.B. Edin., Edinburgh ; Gurudas Ram Vohra, L.R.C.P. & S.E., &c., Punjâb, India ; Charles Cameron, M.B., Ch.B. Edin., Bearsden ; William Aikman Muir, M.B., Ch.B. Glas., Glasgow ; Narain Rama Rao Ubhaya, L.R.C.P. & S.E., &c., Mangalore, India ; Andrew Campbell, M.B., Ch.B. Edin., Edinburgh ; Gordon Gray Jolly, M.B., Ch.B. Edin., Edinburgh ; William Smail M'Laren, M.B., Ch.B. Edin., Edinburgh ; James Donaldson Saner, M.B., C.M. Edin., Edinburgh ; Mangalore Laxumana Bangara, M.B., Ch.B. Edin., India ; George Richardson, M.D., &c., Edin., Leith ; Alexander Gordon Ingram, M.B., C.M. Aberd., Helensburgh ; and John Andrew MacLeod, M.B., Ch.B. Edin., Edinburgh.

## PERISCOPE.

### THE HISTORICAL MEDICAL MUSEUM, LONDON.

IN response to numerous requests it was decided to defer the closing of the Historical Medical Museum, organised by Mr. Henry S. Wellcome, until October 31st. During the month of October it remained open from 10 a.m. to 6 p.m. daily, and from 10 a.m. to 1 p.m. on Saturdays. After the present date it will be closed for a few months for re-arrangement as a Permanent Museum. It is proposed to re-open the Museum in its permanent form in the spring of next year.

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### NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

#### *“ Kepler ” Malt Extract with Glycerophosphates.*

“ KEPLER ” Malt Extract with Glycerophosphates is now issued by Messrs. Burroughs Wellcome & Co. Each fluid ounce contains gr. 4 of calcium glycerophosphate, and of potassium, sodium and magnesium glycerophosphates, gr. 2 each. For these, “ Kepler ” Malt Extract forms an appropriate and palatable vehicle, having, as well, a definite food value of its own. While in no sense possessed of specific virtues, glycerophosphates have been found distinctly beneficial in enfeebled conditions of the nervous system, resulting from worry, from overwork, and from exhaustion, as well as in such apparently diverse conditions as anæmia, urticaria, and incontinence of urine. In osteo-malacia and rickets the calcium salt is valuable, and in the treatment of epilepsy by means of a salt-free diet, the administration of glycerophosphates in conjunction with bromide is strongly recommended by authorities. “ Kepler ” Malt Extract with Glycerophosphates presents glycerophosphates in an agreeable medium, which is itself an easily assimilable nutrient, capable of aiding amylaceous digestion. To this extent the therapeutic value of the glycerophosphates is considered to be enhanced. The preparation is issued in bottles of two sizes.



MR. J. S. MCARDLE on "Hour-glass Contraction of the Stomach."



FIG. 1.

C. Cardiac portion.  
U. P. Pyloric portion.  
U. Position of Umbilicus.

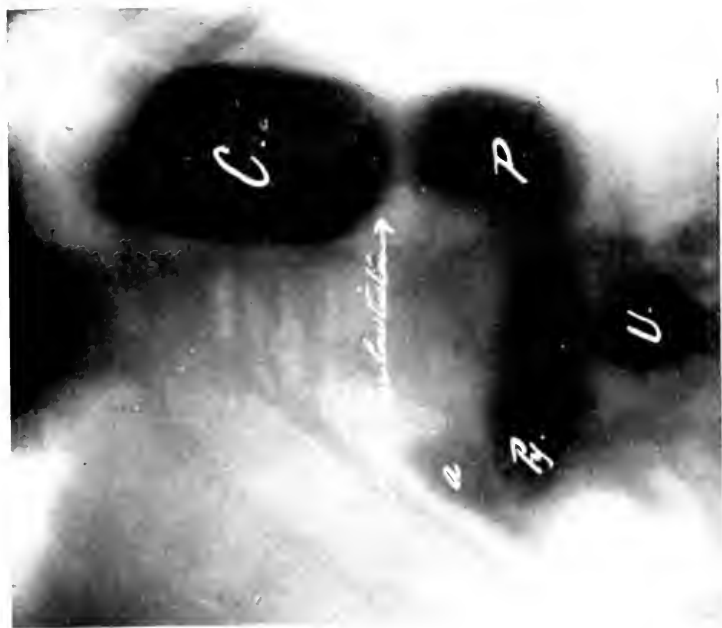


FIG. 2.

C. Cardiac portion.  
P. Pyloric portion.  
Pg. Pylorus.  
a, b. Duodenum.

# THE DUBLIN JOURNAL

OF

## MEDICAL SCIENCE.

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DECEMBER 1, 1913.

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### PART I.

### ORIGINAL COMMUNICATIONS.

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ART. XVII.—*Hour-glass Contraction of the Stomach.*

By PROFESSOR JOHN S. MCARDLE, M.Ch. (*Hon. Causâ*)  
R.U.I. (Illustrated.)

THE case I wish to bring under notice is one of surgical interest in many ways. The patient, Mrs. W., had already been operated for cystic ovaries, resection being carried out. Twelve months afterwards she gave birth to a healthy son, Then she got a severe attack of hæmorrhoids, which were cured by excision. Some years later, developing signs of chronic intestinal obstruction, a kink of the ileum and extensive adhesions of the ascending and transverse colon were dealt with, and the gall-bladder, to which the hepatic flexure of the colon adhered, was freed and fixed at the level of the ninth costal cartilage. Relief of the trouble was immediate and complete. Some years afterwards severe symptoms appeared, and Dr. Rice, of Portarlinton, who was in attendance, diagnosticated gastric ulcer and treated her accordingly, but without much improvement. Sir C. Nixon then saw her, and agreed as to the diagnosis, but only slight progress was made under medicinal treatment. Soon after this I examined the

patient with Sir C. Nixon and Dr. Rice, and, owing to her emaciation and general appearance, I feared carcinoma.

Later, while in London, Mrs. W. got worse, and Dr. Rice consulted Dr. Herschell about her. The diagnosis of gastric trouble was agreed to, and Dr. Alfred Jordan was asked to *x-ray* the case. The photographs which are here appended confirmed the diagnosis, and proved that the scar tissue resulting from the ulcer of the stomach had so contracted that organ that it had become hour-glass in shape.

Dr. Rice decided that nothing but operative measures could relieve this condition, and on September the 25th, 1912, assisted by Drs. Rice and Reginald White, while Sir C. Nixon kindly took charge of the patient, I carried out a gastro-gastrostomy, aided very much by the information provided by Dr. Jordan's excellent *x-ray* pictures.

The patient made an uninterrupted recovery, and now, over twelve months after the operation, she can enjoy her food, take exercise freely, and join in her favourite sports as fit and well as ever she has been.

The value of *x-ray* photography as applied to gastrointestinal work is well exemplified in this case, and to show the accuracy of Dr. Alfred Jordan's diagnosis I append his report :—

“ 11 BENTINCK STREET,

“ CAVENDISH SQUARE, W.,

“ 26th August, 1912.

“ Nothing abnormal was shown in the chest. The posterior mediastinum contains no enlarged glands. Bismuth emulsion passed through the œsophagus and entered the cardiac portion of the stomach, which portion forms an enlarged pouch; the bismuth then began to trickle down in a thin stream from a point well to the right of the lowest point of the cardiac pouch, and to enter the pyloric portion of the stomach, this portion being somewhat dilated and dropped, as is well shown in Fig. 1, taken in the vertical position.”

Examined on the couch the division of the stomach into two portions is clearly shown in the next plate (Fig. 2).



“ The pylorus, marked *Py*, appears normal in form. Bismuth emulsion entered the duodenum fairly freely. The duodenum showed active contractions, and the bismuth passed through it freely and entered the jejunum. Thus there is, as shown in Fig. 2, a well-marked hour-glass constriction of the stomach, due, no doubt, to a chronic ulcer of the lesser curvature. The pyloric portion of the stomach is somewhat dilated, but appears normal in other respects.”

The finding at the operation coincided exactly with this description, and I need hardly say how the plates here shown enabled me to carry out a rapid and successful procedure.

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ART. XVIII.—*The Pathology of Œdema and Dropsy, chiefly in relation to Colloids.*<sup>a</sup> By WALTER G. SMITH, M.D.; President of the Royal Academy of Medicine in Ireland.

THE pathological conditions termed œdema and dropsy are among the every-day phenomena which confront physicians and surgeons. It naturally happens that cases of general dropsy come more frequently under the care of the physician, and every thoughtful observer must, perforce, often feel puzzled by the clinical vagaries that fall under his notice.

For example, in one case of heart disease he sees extensive dropsy supervene at the first breakdown. Another patient with advanced valvular disease, or even congenital heart disease, goes on for years with perhaps no more than slight œdema of the legs now and then.

Again, in chronic renal disease, it is often difficult to correlate the occurrence of dropsy with recognised pathological conditions of the kidney, or with altered blood-pressure. Dropsy happens with and without polyuria, varies in localisation, and is even sometimes one-sided. The most acute nephritis may exist without anasarca (Osler).

<sup>a</sup> Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, October 31, 1913.

Renal dropsy may be highly developed in the subcutaneous tissue without any large amount of fluid being poured out into the serous cavities. In some instances it is more marked in the face, in others in the legs or in the scrotum, and so on.

Once more, acute general dropsy is occasionally met with in the absence of any discoverable morbid state of the circulatory, respiratory, or renal systems.

It, therefore, suggested itself to me that it would be instructive, and might awaken a many-sided discussion, if I attempted, however inadequately, to sum up our present state of knowledge in regard to the causation and development of dropsy as compared with the teaching current when I received my first lessons in Clinical Medicine fifty years ago from the lips of William Stokes and Alfred Hudson.

It may at once be premised that the conditions involved are highly complex, that the adaptive auto-regulating powers of the body are amazing, and that we are as yet far from being able to answer all the riddles concerning dropsy which the Sphinx of Medicine is ever ready to propound to us.

Let us first take a brief retrospective historical glance. It is probable, for obvious reasons, that dropsy in connection with cardiac trouble was the first form to be recognised, and dropsy, possibly renal, was described by Hippocrates nearly two and a half millenniums ago.

The explanations offered half a century ago were mainly based upon mechanical and hydrostatical considerations, and these still loom large in our text-books, and unquestionably play a big part.

Then the physical view, based upon filtration processes, was emphasised and developed by Ludwig (1863) and his school, and held the ground for many years.

In recent times this view has been expounded, in a modified form, by E. Starling, in his instructive lectures upon the Fluids of the Body (1909). But the more closely we look into the matter the less adequate appears the filtra-

tion hypothesis, and it will probably soon be entirely abandoned.

A stout opponent of the purely physical theories appeared in Heidenhain, who, more than twenty years ago, maintained the essential importance of the secretory activity of the endothelium of the lymph and blood-vessels. Heidenhain also laid stress, as did Wooldridge and Cohnheim previously, on the significance of altered permeability of the capillary wall. This impairment of nutrition of the capillaries is undoubtedly an important factor. Other observers considered that weight should be attached to alterations in the quality and composition of the blood. But this is a vague and hazy conception, and the chief point to consider in relation to it is change in the viscosity of the blood. The viscosity of such colloidal solutions as the blood is enormously increased by slight traces of acid, and sundry observers have confirmed this observation experimentally.

Instigated by Graham's classical researches (1861) on colloids and crystalloids, physiologists were led to study the physico-chemical relations between the blood and tissues, and an extensive literature arose upon the applications of diffusion and osmosis to biological problems, which has been fruitful in results.

Coming down to more recent times, opinions seem to be veering towards the consideration of another factor—viz., the state of nutrition of the tissues themselves—and here we meet with the observations and experiments of Lazarus-Barlow, Asher, Bechhold, Bainbridge, and others.

The usual definition of oedematous and dropsical fluid is that it represents an excessive accumulation of lymph in the tissues and spaces of the body. This lymph may be normal or modified in composition.

For the composition of lymph, or, better called, tissue fluid, is determined by—

- (a) The transudate from the capillaries.
- (b) The products of tissue metabolism.
- (c) The subtraction of materials utilised by the tissue cells.

But the definition as thus formulated is inadequate to the pathogeny of dropsy. It is begging the question to assume that the origin of so-called lymph and of dropsical fluid is one and the same thing. Most of the physiological experiments bearing upon this topic have been executed solely from the point of view of the mode of lymph formation. Yet it can, I think, be shown that the relations of the tissue cells to water and to saline solutions have, independently of osmosis or secretion, a significance in the causation of dropsy which has been frequently overlooked, or not taken sufficiently into account.

It is held now that the lymph channels form a closed, freely-branching, series of ducts separated by an endothelial lining from the tissue spaces.

It would be advisable if physiologists and pathologists would agree to restrict the term *lymph* to the contents of the lymphatic vessels, and not confuse the *tissue fluids* with it, even although we may not be able to separate them experimentally. The tissues are the real parent of the lymph-stream; the blood-vessels are the parent of a transudate. So lymph-formation and transudate-production represent different processes, running in opposite directions. The puzzle is not so great in considering the inflow from the blood as it is in speculating how, once in the tissue spaces, the fluid gets into the lymph channels.

The four areas of fluid accumulation in the body are the serous cavities, the lymph vessels, the interstices of the tissues, and the tissue cells.

We may now briefly pass in review the possible factors in the causation of œdema, and, for convenience of reference, I have arranged them in tabular form.

I. Vascular—*i.e.*, blood-vessels and lymph-vessels.

(a) Increased supply or inflow of transudate.  
Hæmorrhage.

(b) Obstructed or diminished outflow through—

(i.) Lymphatics.

(ii.) Veins and capillaries.

II. Osmotic pressure.

III. Physico-chemical alterations in the blood.

IV. Alterations in cell-nutrition.

(a) Blood-vessels and lymph-vessels.

(b) Tissue-cells.

(c) Nervous influences.

V. Turgescence of cells.

I am quite conscious that it is easy to pick holes in this classification.

I. Vascular.

Under this term are included both the blood-vascular system and the lymphatic system.

(1). Increased supply or inflow of transudate (transudation) : (The so-called " active œdemas " ).

This is mainly due to increased pressure in the arterioles and capillaries. The driving force of the interchange of fluid between the blood and tissues is largely a hydrostatic difference of pressure.

*Hæmorrhage*.—We all know that not only a colourless transudate but also red blood discs—*e.g.*, in the kidney—sometimes make their way through the walls of the capillaries and of the urinary structures, and so give rise to hæmaturia. This process of leakage of blood discs, apart from actual rupture of vessels, is usually termed *diapedesis*, and is a familiar clinical phenomenon.

What is its mechanism?

The existence of holes, so-called stomata, in the capillary walls, a fanciful hypothesis suggested by older pathologists—*e.g.*, v. Recklinghausen and Arnold—is now rejected as a figment of imagination.

The influence of blood-pressure must be discounted, because diapedesis occurs in various conditions associated with low blood-pressure.

Cohnheim's view of altered permeability of the blood-vessel walls is vague until interpreted in modern language in terms of colloid chemistry.

We can now say that a red disc may find its way through a tissue-colloid (the blood-vessel wall) whenever that

colloid is rendered abnormally soft and yielding by some pathological change—*e.g.*, a slight increase of acidity.

The problem, then, is reduced to that of one colloid wriggling its way through another colloid without losing its identity or leaving behind it any evidence of its passage.

The physical forces involved are those of internal friction (viscosity) and surface tension.

An ingenious experiment, due to Fischer, prettily illustrates this matter, and we need not press the analogy too closely. (Experiment shown.)

I drop some mercury on a 3 per cent. "gel" of gelatin. It remains on the surface, in spite of its high specific gravity (13.5), and can be rolled about on the top of the gelatin without entering it.

With a "gel" of lower concentration, say, 1.5 to 2 per cent., the drops of mercury "will move in all directions through the stiff gelatin, in which, of course, no holes exist and in which none remain after the mercury has passed" (Fischer).

(2) Obstructed or diminished outflow—(the so-called "passive œdemas") through :—

(a) *Lymphatics.*

On account of the free anastomoses of the lymphatics this factor is not of prime importance. Obstruction or even closure of the main lymph-duct does not necessarily lead to dropsy.

Lymphatic obstruction is probably of considerable moment in the pathology of an acutely strangulated hernia. The fluid in the strangled gut is rich in albumen, although it is well known that the normal intestinal juices contain but a trace of albumen. In other words, we get in the injured gut a condition parallel to that of albuminuria in nephritis—*i.e.*, damaged nutrition of tissue cells.

Long-continued *gradual* lymph obstruction seems rather to conduce to altered nutrition and hardening of connective tissue, such as is seen in elephantiasis.

(b) *Veins and Capillaries.*

These are undoubtedly the chief return channel, and it

is unnecessary to adduce evidence in favour of this proposition.

But even here other factors usually co-operate. Thus, it is a well-known fact that whereas thrombosis of the femoral vein will give rise to pronounced œdema of the leg, yet ligation of the healthy femoral vein, or even of the inferior cava in dogs, produces no œdema of the legs.

It is doubtful if œdema can ever be brought about in the *limbs* by a moderate rise of venous pressure alone, provided that the capillaries retain their normal impermeability (Starling).

However produced, we may accept as a general statement that in all cases a primary cause of œdema is an increased transudation (Starling).

## II. Variations in osmotic pressure.

Although the importance of this factor in determining alterations in form and contents of cells is over-estimated by some writers, it cannot be ignored, and must hold a place in all speculations upon the movements of fluid in living tissues. It is, however, tied up with many limitations. For example, frog's muscle placed in isotonic solutions of various salts will take up very different quantities of water.<sup>a</sup>

Pfeffer and H. de Vries are the leading champions of the wide significance of osmosis in vegetable physiology, and it was their researches which instigated animal physiologists to the study of osmotic processes.

Osmosis is concerned chiefly with crystalloid solutions because the osmotic pressure of colloids is very small. On the whole, colloids, as compared with crystalloids, are the stable constituents of the organism, and it is important to remember that they constitute by far the greater part of the solids of the body. In the blood itself the water is really held in close association with the colloids of the blood, and cannot strictly be regarded as "free" water.

<sup>a</sup> The words "isosmotic," "isotonic," and "physiological salt solution" are usually considered as synonymous terms. But this is not strictly correct, and the physiological coefficient is not identical with the physical.

For the blood, the ratio of colloids to crystalloids is about 10 to 1, and the amounts of crystalloid substances in the blood and lymph are approximately the same. The chemical behaviour of colloids is largely determined by surface-phenomena (Starling).

### III. Physico-chemical alterations in the blood.

Mere excess of water introduced into the blood-vessels of a healthy animal does not induce dropsy. The notion of increased filterability of the blood as involved by hydræmia or cachectic conditions is not well substantiated, and is now chiefly of historical interest, dating from the time of Richard Bright, who started the hydræmic hypothesis.

### IV. Alterations in cell-nutrition.

#### (a) Blood-vessels and lymph-vessels.

This kind of change is, as Cohnheim and others showed, a factor of prime moment, and there is abundant experimental and clinical evidence of the import of variations of permeability of the endothelium and walls of the vascular channels. Moreover, the selective action of vascular endothelium, and the filtration-permeability of the capillary wall vary in different territories of the body, circumstances that determine certain clinical phenomena, and the distribution of dropsy. It is better to discard the term "semi-permeable" in dealing with colloidal animal structures. Permeability of the capillary wall is, in the main, quite independent of hydrostatic pressure.

In this context brief reference may be made to pulmonary œdema. The pulmonary capillaries are the widest in the body, and they possess a higher degree of vasomotor autonomy than any other vascular area in the body. That is to say, they are little, if at all, regulated by vasomotor impulses emanating from the central nervous system, either cranial or spinal. The lung capillaries are very sensitive to chemical alterations or abnormalities in the blood or interstitial fluids of the lungs. The tissues of the heart are not so sensitive.

#### (b) Tissue-cells.

The changes that these undergo in connection with in-



flammation have been exhaustively studied, although their relations to œdema have been neglected. Lazarus-Barlow aptly remarks that it is astonishing how in all discussions concerning lymph and œdema-formation the tissues have been left out of consideration.

(c) Nervous influences.

This is obviously an obscure factor, although text-books speak so glibly of "angio-neurotic œdema." Still, we recall such curious phenomena as sudden joint effusions in tabetic arthropathy, Raynaud's disease, and so forth.

The best marked experimental case of neurotic œdema is the unilateral œdema of the tongue which may be produced by stimulating the peripheral end of one lingual nerve (Starling). Every one, of course, recognises the vasomotor influences of the nervous system.

V. Turgescence of cells.—(*Quellung*, *Quellbarkeit*, *Entquellung*).

I have been somewhat puzzled about the best rendering for the German word *Quellung*. In German writings it is taken as synonymous with *Imbibition*, and in English text-books is always translated as Imbibition.

Yet much confusion arises from the careless use of this word.

For, on looking closely into the matter, it is easily seen that the word is really employed in three different senses :

(a) Capillary imbibition (Fick)—*i.e.*, penetration of liquid through narrow interstices or channels.

This penetration is controlled by surface tension, and by *adsorption*—*i.e.*, surface condensation.

It is familiarly exemplified in the wetting of porous clay, of a sponge, or of blotting-paper.

By *adsorption* is meant surface condensation, as distinguished from absorption into the mass of a substance. The use of charcoal as a decoloriser is an example.

(b) Imbibition by osmosis—*i.e.*, diffusion across a boundary surface—a well-known phenomenon observed in animal and vegetable tissues, especially the latter.

An attractive illustration of diffusion is easily shown. A

3 per cent. solution of gelatin is allowed to solidify in the bend of a U-tube. In one limb of the tube is placed a dilute solution of potassium ferrocyanide; in the other limb a dilute solution of ferric chloride. Dissociation occurs, and the ferric ion and the ferrocyanogen ion, respectively, travel in opposite directions, and, after some hours, meet in the middle of the bend, and form a beautiful blue septum of precipitated Prussian blue.

(c) Molecular imbibition (Fick)—*i.e.*, increase of volume due to localised taking up of water by a mass of substance, whether a living cell, or such colloid substances as gelatin, agar, or fibrin.

For this condition the term *turgescence* seems to me appropriate, leaving imbibition restricted to the first case.

Turgescence is independent of osmotic pressure, and it is unnecessary to introduce the conception of a semi-permeable membrane or surface.

It is to the factor of turgescence that I desire to specially invite your attention.

All animal and vegetable cells can be regarded as "organised hydrosols"—*i.e.*, mixtures of colloid proteins, carbohydrates, fats, and lipoids, with water—susceptible of being influenced by mechanical, physical, and chemical agencies. Each and all of these factors impress the anatomical, chemical, and colloidal mechanisms of the cell (Mott).

In the normal organism there exists among the individual organs and tissues a certain turgescence ratio; a dynamic equilibrium; and this exhibits surprising variations in amount.

For example, the muscles are far and away the most hydrophile of the tissues, whereas the colloids of the blood have a very small capacity of turgor. Hence it is that even a large excess of water when introduced into the blood-vessels, quickly passes out and is excreted by the kidneys.

In this connection the researches of Martin Fischer,

Professor of Physiology in Cincinnati,<sup>a</sup> into the determining factors of œdema are important and illuminating, and are reckoned by Wolfgang Ostwald as the most suggestive addition made to one of the fundamental problems of general biology and pathology.

Fischer seeks for the cause of dropsy not in the vessels but in the tissues themselves. The problem of œdema is essentially a problem of the tissues, and the play of the drama is shifted from the vascular system to the constituent cells of the various organs.

Klemensiewicz also lays stress upon the factor of the tissue-cells in his excellent article on the lymph in Krehl and Marchand's *Allgem. Pathol.*, Bd. II., 1912.

The influence of various electrolytes, acids, bases, and salts in solution upon the turgor of such substances as fibrin, gelatin, and agar is very considerable, and is easily demonstrable. [Experiments demonstrated with laminaria tents, and with gelatin.] The water in colloid "gels" is held with great tenacity, and can be expressed from them only by enormous pressure. This is a highly important fact.

How stands the case with œdema fluids? Such fluids react acid to phenolphthalein, even after the  $\text{CO}_2$  has been removed, and it has, moreover, been shown that the amount of  $\text{CO}_2$  in these fluids is much in excess of that in venous blood (Strassburg : Ewald)—*i.e.*, there is an increase of acidity. On the other hand, it has been shown by Araki and Zillesen that every deficiency in oxygen supply is followed by increased production of acids. Even  $\text{CO}_2$  and very dilute solutions of acids lead to extreme swelling of colloid materials, and since lowered oxidation goes hand-in-hand with insufficiency of the heart, severe anæmias, and certain cachexiæ, we see a reason for the frequent occurrence of dropsical swelling in such cases.

Hoppe-Seyler has shown that œdema-fluid may contain

<sup>a</sup> Das Ödem von Dr. Martin H. Fischer. Translated from the American edition, 1910, by Drs. Schorr and Wolfgang Ostwald, Dresden, 1910. Nephritis. Dr. Martin H. Fischer. New York. J. Wiley & Sons. 1912.

not only lactic acid, but also traces of valerianic, succinic, and butyric acids.

I show you a simple experiment which illustrates, by analogy, the mode of production of a wheal—*i.e.*, a localised œdema, such as that caused by a nettle sting.

A drop of dilute formic acid is inserted by a hypodermic needle beneath the surface of a layer of gelatin “gel,” and the specimen is placed under water. After some time a rounded hillock projects above the surface at the point of injection. Moreover, if the ions of certain electrolytes can induce œdema by producing turgor of the tissue-cells, it ought to follow that ions of other electrolytes which lessen turgor of cells would reduce œdema. Such is found to be the case, whereas non-electrolytes have no such influence.

To sum up.—The blood- and lymph-stream carries fluid to and from the tissues, but what these take up or give back to it is their own affair. Only in so far as the circulatory system brings to the tissues substances which directly threaten their existence, or, in so far as they neglect to carry away the metabolic products of the tissues which by their accumulation may injure the tissue can the circulation be said to exert a compelling influence on the water-combining capacity of the tissues (Fischer). Upon this water-fixing power of the colloid tissues much depends. Blood is essentially a hydrosol, and the water of the liquor sanguinis cannot be considered “free” in the same sense as the water in a weak crystalloid saline solution, such as a dilute solution of NaCl.

#### CLINICAL ILLUSTRATIONS.

*Renal Dropsy.*—Here we have to consider two different types :—

(a) The dropsy following on acute nephritis—say, post-scarlatinal.

In all probability this is due to increased permeability from the action of toxins on :—

(i.) Renal glomeruli.

(ii.) Subcutaneous capillaries (Senator), and possibly

(iii.) Increased adsorption—*i.e.*, holding back of water by the tissue-cells.

(b) Chronic Bright's disease.

High blood-pressure is evidently not the leading factor, for, as we all know, dropsy is usually much less marked (or may be absent) in interstitial nephritis with raised blood-pressure than it is in the large white kidney with lower blood-pressure. Ascites and hydrothorax are not so common in renal as in cardiac disease.

We must further distinguish between the dropsy due to primary uncomplicated renal disease and that associated with the secondary morbid cardiac conditions so often superadded to the renal affection.

It is, I think, a clinical fact that œdema of the lung is at least as common in renal as in cardiac dropsy, and this points to a chemical rather than a mechanical explanation. As Cohnheim said years ago :—" A man does not die of œdema of the lung, but he gets œdema of the lung because he is dying."

Moreover, extensive renal dropsy is frequently met with apart from any discoverable abnormality of the vascular system. The exact pathology of renal dropsy still remains an aggravating puzzle.

Yet we may assign as probable events :—

(a) Retention (from unknown causes) in the tissues of crystalloids—*e.g.*, NaCl—*i.e.*, substances of low molecular weight and easy dissociation, circumstances which conduce to osmotic attraction of fluid from the blood.

(b) Cohnheim laid great stress upon increased permeability, which appears to vary in different parts of the body. For, according to Schmidt's analysis of transudates from different parts of the body of a patient who died of nephritis, the following sequence obtains—

The proportion of protein varies in descending order, thus :—

Pleura → peritoneum → cerebro-spinal → sub-cutaneous.

(Wells, *Chem. Pathol.*, 1907, p. 296.)

(c) Turgor of the tissue-cells, due to acidity.

Von Jaksch has found that the "alkalinity" of the blood is constantly and markedly depressed in severe renal inflammations. The urine is often strongly acid, and several observers state that they have found in the blood of nephritic patients substances which depress some of the oxidative processes of the body. Fischer holds that all the changes that characterise nephritis are due to a common cause—the abnormal production or accumulation of acid in the cells of the kidney. It is very unlikely that this is the sole factor, but whatever may be the ultimate fate of this theory it undoubtedly demands consideration and gives food for thought.

Fischer explains the occurrence of the familiar clinical phenomenon termed "puffy eyelids" in renal disease on the grounds that he has shown the tissues in this region not only to be especially sensitive to slight variations in acidity, but also to possess an enhanced attraction for water as compared with other colloids.

Much confusion in renal pathology has arisen from ignoring the assured fact that the excretion by the kidneys of water and the excretion of substances soluble in water are two entirely independent processes. From the behaviour of the kidney towards the excretion of one chemical substance we have no right to infer what may happen in the case of another soluble substance. The two processes are frequently associated, but do not run on parallel lines.

It is worth noting that in complete suppression of the urine, say, by calculous obstruction, dropsy may be entirely absent.

#### TREATMENT OF NEPHRITIS.

A cursory reference to text-books on Medicine will quickly show how little satisfactory are our ideas upon the therapeutics of nephritis.

It is quite impossible in the time at my disposal to enter fully upon such a complex subject.

One point, however, clearly emerges from the foregoing observations, and it is strongly urged by Martin Fischer.

It consists in the "avoidance, as far as possible, of every condition that favours the abnormal production or accumulation of acid in the kidney" (Fischer)

This is the key to several of our recognised procedures or lines of advice.

Thus, restriction of proteins in diet is advisable, not, as is usually said, to avoid over-burdening the excretory function of the kidney, but rather because, as is well established, appreciable amounts of acid are produced in the metabolism of proteins.

Hence, also, why highly acid wines, such as sherry, are so injurious, and the percentage of alcohol is of less sinister importance than the degree of acidity.

The ill effects of hard muscular work, especially when performed under insanitary conditions, and exposure to chill or extreme cold, circumstances which lead to increased production of acids in the body, find, similarly, their explanation, and also account for the resultant albuminuria.

Conversely, we can readily see the advantages to be derived from a more liberal vegetarian diet and from the use of alkalies and their salts.

Fruits and vegetables, moreover, are rich in the very classes of salts which act most powerfully in reducing the solubility of proteins in acids, and thus tend to diminish the albuminuria, so far as it arises from dissolution of the renal tissues. Plenty of water is beneficial to nephritic patients, and it should be conjoined with the administration of properly selected salts, especially NaCl and Na<sub>2</sub> CO<sub>3</sub>, not the bicarbonate. "The milk diet has, not without reason, enjoyed the popularity that it has obtained. By giving milk we give a patient a very useful balanced ration of fat, carbohydrate, and protein. But we do more than this—we give water and salts. The water helps to wash out poisons, and the salts contained in the milk have a concentration which just suffices to do away

with the effects of giving an equal amount of water pure " (Fischer).

On the other hand, the use of nitrites to reduce blood-pressure is to be deprecated in cases of arterio-sclerosis associated with chronic interstitial nephritis.

Fischer states that he has several times observed alarming falls in the urinary output, and once a complete suppression of urine, followed by death of the patient eight days later, after the adoption of such a treatment. It is unjustifiable to reduce general blood-pressure by nitrites unless we take care that we do not at the same time reduce the blood-supply to the kidney down to a dangerous level.

As Sir W. Osler aptly puts it :—" A man's life may be said to be a gift of his blood-pressure, just as Egypt is the gift of the Nile. I am sure that in many cases more real good can be done by regulating the patient's diet and habits of life than by tinkering him with powerful but dangerous drugs."

Fischer's rule for treatment of nephritis may be baldly summarised in these words :—Give alkali, salts, and water.

For full details, illustrated by clinical cases, I must content myself with directing your attention to Fischer's monograph on Nephritis (1912), and also to a paper by him on the treatment of nephritis published in the " Transactions " of the Association of American Physicians (1912).

*Heart Disease.*—In the text-books and in current clinical teaching the effects of so-called " back-pressure " are set forth as the main cause of dropsy and other secondary troubles, and this one-bar tune is played upon with monotonous iteration. This view is as old as the time of Lower, who flourished in the latter part of the seventeenth century.

Upon closer consideration we may recognise two classes of cases (H. J. Starling).

- (a) Those in which the arterial pressure is normal.
- (b) Those, chiefly occurring in older subjects, in whom



the pressure is high, and may amount to over 200 mm. of Hg.

H. J. Starling claims to have shown by his measurements of arterial pressure in cases of heart disease that in no case of cardiac disease, however severe the symptoms, and however marked the failure of compensation, was the blood-pressure in the arteries below the normal.

How is this surprising fact to be met?

Why is it that in cases of heart disease we find a normal arterial pressure even where there is considerable over-distension of the veins?

Professor Ernest Starling's answer is this :—The whole vascular system is subordinate in its activity to the needs of the master-tissue of the body—viz., the brain.

To meet these needs a certain height of arterial pressure is essential in order that the medullary centres shall receive a proper supply of blood and of oxygen. Failing this supply, death soon follows.

What, then, is the result of temporary failure of the heart-pump?

So soon as the arterial pressure falls so low as to cause an ischæmia appreciable by the vasomotor centre, the latter at once sends down by all the vascular nerves impulses which bring about universal vaso-constriction. If this is not sufficient to raise the arterial pressure, increased respirations and expiratory convulsions occur, and tend to force the blood from the veins into the heart, thereby increasing the output of the latter.

Bolton's important experiments (*Journ. of Pathol.*, IX.) on the relation of cardiac dropsy to that of local venous obstruction have shown that œdema may occur under conditions in which the capillary pressure is certainly not higher than in the normal animal. That is to say, increased transudation under normal pressure may arise from altered permeability of the capillary endothelium as a result of defective nutrition.

So we are led to see that "the production of dropsy in heart disease is by no means simple. It involves a compli-

cated series of interacting mechanisms all of which tend to the death of the organism" (E. Starling). It will follow from these considerations that the treatment of cardiac dropsy rests upon a wider basis than purely hydraulic or mechanical factors. We must take into account not only the dynamics of the vascular system, but also the biochemical conditions of the different tissues themselves. But time forbids my pursuing this theme.

<sup>a</sup> One more example—the last I shall weary you with—in illustration of the principles referred to in my paper may be cited from ophthalmology, and I hope my ophthalmic friends will pardon an intrusion into their province.

I refer to the production of glaucoma.

In the last edition of Sir H. Swanzy's admirable textbook, the chapter on Glaucoma opens with this statement:—"The primary cause of glaucoma remains to a great extent obscure. . . . It probably has its origin in some vascular derangement of the uveal tract.

But may not this be putting the cart before the horse? All the symptoms of the disease depend upon increased ocular tension, and innumerable experiments have been devised to elucidate its cause.

Further on, in alluding to secondary glaucoma following on serous cyclitis or iritis, he quotes Priestley Smith's significant opinion that, in such cases, the increased tension is due to diminished filtration power of the eye, and perhaps to tissue-changes around the filtration angle.

Does not Priestley Smith's view suggest colloid chemical changes as an important factor, and can any observations be adduced in favour of this hypothesis, as against the views based upon exaggerated lymph- or blood-pressure?

It has been demonstrated by Hofmeister and others many years ago, and by Martin Fischer more recently, that the turgescence of colloids such as gelatin, agar, cartilage, and fibrin can be markedly affected by various electrolytes, and that there is no essential difference between the relations of fibrin and gelatin to water.

<sup>a</sup> This Section was not read before the Academy owing to lack of time.

Fischer has, likewise, shown that the water-combining capacity of muscle, and of the eye-ball, respectively, corresponds with that observed in the case of fibrin and gelatin.

Muscular tissue can, from a dilute acid solution, take up more than twenty times its weight of water. Now the eye is composed of a number of different colloid substances, with different water-absorbing capacities, and Fischer set himself to examine how far the ocular tissues responded to solutions of various electrolytes.

If an extirpated eye be placed in a very dilute solution of acid, so weak that the sour taste is scarcely perceptible, the eye-ball becomes stony hard, just as in the worst glaucoma.

Conversely, other electrolytes cause shrinkage of the eye-ball, or will counteract the tension produced by acids.

Moreover, Fischer and Thomas (*Annals of Ophthalmol.*, Jan., 1900) have utilised these observations therapeutically, for they claim to have shown that the injection of a few (5-15) drops of  $\frac{1}{8}$ - $\frac{1}{8}$  molecular solution of sodium citrate (*i.e.*, 4.05 to 5.41 per cent.) under the conjunctiva of human beings affected with glaucoma will, within five minutes, relieve the pain, and lower the tension to the normal level or even below it. I do not for a moment imagine that such crude experiments give the key to the puzzle of glaucoma, but I do not think that they suggest a promising field of investigation to pathologists and ophthalmologists.

I should have hesitated to bring forward Fischer's views were it not that in a recent paper (*Proc. Royal Soc.*, Series B., Vol. 85, 1912), Leonard Hill and Martin Flack put forward somewhat similar views. They suggest that the increased tension in glaucoma is due to increased imbibition and secretion of fluid, resulting from an altered metabolism of the ocular *tissues*, leading to compression of the veins and to a rise in the capillary venous pressure, and, therefore, ocular pressure.

What may be the intimate nature of the chemical altera-

tions in the eye-tissues that induce glaucoma is still an enigma.

The circulatory conditions in the eye resemble those in the intracranial cavity, with the exception that the intra-ocular pressure is much higher than the intra-cranial pressure, and, therefore, is not affected by changes in the general venous pressure.

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ART. XIX.—*Gynæcological Urology.*<sup>a</sup> By M. J. GIBSON, M.D.; Master of the Coombe Hospital; Gynæcologist to the Richmond Hospital, Dublin; President of the Obstetrical Section of the Royal Academy of Medicine in Ireland.

I HAVE to thank you sincerely for the honour you have paid the Coombe Hospital and me. In seeking a subject for this address which would relate to both obstetrics and gynæcology, I decided on a review of some of the urological subjects with which we are constantly brought in contact. It is apparent that much of the work done in urology by the members of this Section is not reported. One explanation may be that there is still some doubt as to whether the gynæcologist, in dealing with such work, is going outside

<sup>a</sup> Read before the Section of Obstetrics in the Royal Academy of Medicine in Ireland on Friday, November 7, 1913.

his own province. There are, however, many conditions of the urinary system which demand our attention and our treatment. Some of those of which I have had experience I wish to review in the hope that further information may be obtained from the experience of the members of this Section.

Bladder troubles are present in the histories of our patients to nearly as great an extent as menstrual troubles, back-ache, and inter-menstrual discharge. One recognises that in many cases these troubles are regarded as being associated with the different affections of the genital tract, and that the cure of the genital trouble will be followed by the disappearance of the urinary symptoms. In some cases this conclusion is correct, in others it is false. It was the fashion as long as the urine contained neither blood nor pus to treat such cases gynaecologically. They must, however, be considered as due to affections of the urinary system until a complete examination has proved otherwise.

I do not propose to consider in detail the modern developments in cystoscopic work which have made it possible for us to attain more exact knowledge of these conditions. They have, however, served to show still more convincingly the intimate connection existing between gynaecology and many diseases of the urinary tract.

Among the interesting conditions of the bladder with which we have to deal are those arising in connection with pregnancy. In general the condition of the bladder during pregnancy, owing to its congestion and oedema and stretching of its walls, predisposes it to infection. The pressure of the pregnant uterus or of the head of the child can make spontaneous evacuation of urine difficult, and bring about incomplete emptying of the bladder. In some cases, owing to straining, small quantities of urine are expelled frequently, pointing to a relative incompetence of the sphincter control. In this way micro-organisms readily effect their entrance. In cases of neglected retroversion of the gravid uterus at the end of the third month, the pressure of the cervix in conjunction with the congestion and stretching of

the region of the internal sphincter leads to retention, which is followed by incontinence. Unless proper treatment is provided infection occurs, which, with the over-distension, may lead to more or less extensive destruction of the bladder wall. In fatal cases death is nearly always due to complications involving the urinary tract. Extensive pyelonephritis, peritonitis from rupture of the bladder, septicæmia or pyæmia are present. Puerperal cystitis is further predisposed to by the trauma to which the bladder is subjected during labour, and, in addition, we have the infected state of the urethra and its neighbourhood soon after labour.

Our observations in cases where catheterisation was required at this time showed how readily the urine could be rendered purulent. But in these cases the ordinary symptoms of acute cystitis are often absent. The origin of many cases of bladder trouble may thus be traced to infection during pregnancy or the puerperium.

In post-operative cystitis, according to Baisch, the primary infection is staphylococcal, sometimes streptococcal. Super-imposed, may be a *Bacillus coli* infection, if it be not already present before operation. Regarding the prevention during operation, efforts should be made to prevent infection of the connective tissue about the bladder, and careful technique in closing the peritoneum over the bladder should be employed. When the catheter must be used, the bladder should be douched with a 2 to 5 per cent. solution of boric acid. This, with urinary antiseptics, is likely to be successful in mild cases where the bladder has not been much disturbed. But after the radical operation for cancer of the cervix, cystitis is almost invariable in spite of these precautions. Douching should be employed here for what it is worth to keep the cystitis in control. Five to ten cubic centimetres of a 1 per cent. solution of collargol injected into the empty bladder and afterwards washed out has been recommended for these cases.

The symptoms vary in degree. The insensitiveness of

the bladder during the first week, particularly after a cancer operation, is very marked. Many patients have an over-distended bladder without knowing it, and only partially empty it when passing water. When this is overlooked the cystitis does not heal, and patients should not be allowed to leave hospital until they are capable of completely emptying the bladder.

In dealing with inflammation of the bladder, we frequently see the cystitis colli in which the inflammatory changes are localised to the trigone. This may be a result of a more diffused cystitis which has become chronic, or of gonorrhœal extension (the cystitis colli gonorrhœica), or extension from a urethritis due to some other cause, or as a result of tying in a catheter.

In cases of cystitis colli gonorrhœica one frequently finds numbers of polypi of various sizes growing from the mucous membrane around the edge of the sphincter. These may become impacted in the sphincter and cause obstruction.

In treating cystitis colli the only satisfactory method is the direct application of nitrate of silver, protargol, &c., on wool through the urethroscope tube. Attempts to cure this condition by douching are fruitless; in fact they usually aggravate it. The condition is recognised with the cystoscope.

The cystitis in old women is mainly due to an ascending infection. The shrinking vaginal wall pulls the outer lips of the urethra apart. The elasticity and capacity of the bladder are reduced. The micro-organisms, and particularly the colon bacillus, ascend to the bladder along the continuously urine-bathed urethra.

Other conditions are paracystitis, which may cause a localised cystitis, pericystitis with adhesion formation between the serous coat of the bladder, the omentum, the appendix or the intestine, which may prevent complete evacuation.

Cystocele, predisposing as it does to retention of urine and cystitis, should always be corrected as early as pos-

sible. The rupture into the bladder of a parametritic abscess is followed as a rule by healing, but when the rupture is from a pyosalpinx or ovarian abscess, healing occurs only when the tube or ovary is removed.

Stone in the bladder is rare, but foreign bodies resulting from operation, criminal abortion, masturbation, &c., are fairly common.

Vesico-vaginal fistulæ after labour or after operation are due to necrosis of the bladder wall or insufficient repair of a wound. After suturing a wound the bladder should be distended with fluid to test it. For the accurate localisation of such a fistula, and particularly its relation to the ureters, cystoscopic examination, having previously plugged the vagina, is most valuable. In extensive cases the distension of the bladder with air must be employed.

Urethrocele, the sac formed in the posterior third of the urethra, due to injury to the muscle during labour, leads to retention of a small quantity of urine in the sac. Some of this urine is expelled every time the patient strains or coughs, and is in this way a cause of very troublesome incontinence.

Urethritis is generally secondary to cystitis or to traumata or to gonorrhœal infection. Gonorrhœal urethritis does not tend to extend to the bladder. One should, therefore, avoid any local treatment of it, especially in the early stages. It soon becomes chronic, and invades Skene's ducts. It may be localised or diffused, which condition, if present, can be settled only by the urethroscope. We sometimes find the wall of the urethra uniformly thickened. Stricture, though rare, is sometimes present. Stricture may also be due to tuberculosis, syphilis, or injury during labour.

In many cases a pyelitis demands our care. It must be regarded to a considerable extent as a clinical entity—a clinical condition embracing those causes of infection of the renal pelvis where evidence of involvement of the parenchyma is wanting. Only exceptionally do patients die as a result of a simple pyelitis. There must, naturally, there-



fore, be considerable difficulty in deciding in any given case of pyelitis as to whether the parenchyma is also involved, and, if so, to what extent. *Post-mortem* examinations, owing to the low mortality of cases regarded clinically as pyelitis, have helped to throw very little light on this matter. There are, however, quite a large number of cases recorded, where, on splitting the kidney at operation during life, the inflammation appeared macroscopically to be limited to the renal pelvis. Of the microscopic condition of the parenchyma there is no mention.

Acute pyelitis may be sero-fibrinous, diphtheritic, purulent or gangrenous. Chronic is described as proliferating, granular or cystic. In but few cases is the cause other than an infective process. The *Bacillus coli*, typhoid and paratyphoid bacillus, influenza bacillus, the *Bacillus pyocyaneus*, the *Bacillus proteus*, the gonococcus, strepto- and staphylococci, and the pneumococcus, have all been shown to be capable of causing infection of the renal parts. In the vast majority of cases the offending micro-organism is the *Bacillus coli*.

We know that the introduction of microbes into the healthy bladder will not cause cystitis. The intravenous injection of *Bacillus coli* will not cause pyelitis. Micro-organisms can pass over the mucous membrane of the renal pelvis without causing pyelitis. Cases are recorded where pyelitis is present on one side and bacteriuria without pyelitis on the other.

Among the predisposing factors which allow of the invasion of the tissues of the renal pelvis are the congestion and œdema of the tissues during pregnancy and the puerperium, lowered vitality induced by traumatism or old-standing inflammatory conditions, obstruction to the passage of urine from the renal pelvis to the ureter or from the ureter to the bladder. The patient's powers of resistance will naturally also play an important part.

The infection may be ascending or descending. In favour of ascending infection are the sudden appearance of the symptoms of pyelitis in patients known to have

cystitis, the presence in the ureter above a site of compression, of urine which is clearer than that below. Infection reaching the renal pelvis through the lymphatics is observed in pyelitis secondary to a septic focus in the pelvis. Such a mode of infection is observed in the localised inflammation of the bladder wall corresponding to a unilateral parametritis. Again, if the micro-organisms in the bladder invade the tissues about the openings of the ureters they may make their way to the wall of the ureter, and eventually reach the renal pelvis, travelling in the lymphatic spaces. Probably the most frequent form of ascending infection is that through the lumen. Normally, this is prevented by the very complete closure of the ureteral orifices when no passage of urine into the bladder is taking place, and the jet-like manner in which the urine is expelled. It has been shown that the movements of the ureter present definite stages comparable to intestinal peristalsis. They are dependent on the integrity of the musculature. The sphincter mechanism of the orifices may be overcome by forcible contractions of the full bladder, accompanied by spasm of the sphincter urethræ. Again, injury to, distortion or rigidity of, the edges of the orifices may lead to incompetence. Regurgitation from the bladder may thus occur with the danger of ascending infection should the bladder contents be septic. These facts explain why the results of implantation of the ureters still attached to the trigonal region are more satisfactory than when the cut ends alone are available.

The ejaculation from the ureter is interfered with by the existence of some unusual resisting force or by a lesion involving the muscular layer. Among these conditions we find tumours pressing against, or growing in the wall of the urethra; stricture, stone or foreign body impacted in the urethra, paralysis of the bladder, over-stretching of the bladder during pregnancy, tumours of the bladder situated in front of the orifices of the ureters, stricture or stone in the ureter, ureterocele, compression of the ureter from a tumour or the uterus, contractions of the tissue surround-

ing the ureter from processes such as parametritis and appendicitis, an abnormal angle of junction at the pelvis of the kidney whether due to floating kidney or other cause, calculus, tumour, or spurs in the renal pelvis. The overstretching of the renal pelvis alone or with the ureter, injures the functioning power of the musculature. Wertheim has shown that after operations for cancer of the cervix urine may be locked up in the renal pelvis even though no injury has been inflicted on the ureter in the surgical sense. Its extensive detachment from its tunica adventitia leads to loss of the peristalsis. That there is no obstruction in many cases has been proved by the sound.

Anatomically we know that there is some degree of narrowing, firstly, where ureter and renal pelvis meet, secondly, at the pelvic brim, and thirdly, where the ureter traverses the bladder wall. That the intrapelvic course of the right ureter to the bladder is not as direct as that of the left is given as one of the causes of the greater frequency of right-side pyelitis. During pregnancy the usual position of the uterus favours pressure on the right ureter more frequently. It has been shown in cases of chronic ureteritis, in which degenerative processes following on inflammation resulted in failure of the motor mechanism of the ureter, that, although the lumen of the ureter was actually somewhat dilated, the pelvis of the kidney could not empty itself satisfactorily and had become enlarged. As to whether an acute ureteritis can cause obstruction, one cannot definitely say, but there is no doubt that one finds a very sluggish action of the ureter in cases of inflammation of the tissues surrounding the ureteral orifices.

Whether, in cases of obstruction, the pent up urine becomes infected, or whether in the majority of cases the urine from the kidney is already infected, is naturally difficult to determine. But that the latter is the more probable is borne out by the known frequency with which bacteria are found to exist in the female urinary tract.

Descending infection may be due to a septic focus near the renal pelvis or infection of the renal pelvis through its

lymphatic vessels or hæmatogenously. The hæmatogenous is the most frequent of these modes of infection. It may be due to a septic focus, such as the uterus, a joint, &c., and it is the invariable path in tubercular pyelitis. The intimate relationship between the lymphatics of the colon and renal pelvis on the right side explains pyelitis following inflammatory conditions of the colon. The healthy intestinal wall efficiently prevents the passage of bacteria from its lumen. This property can be maintained in spite of considerable interference with the circulation through its blood-vessels. In cases of strangulated hernia the fluid in the hernial sac is sterile unless the bowel has become gangrenous. But accumulation of large quantities of hardened fæces renders the wall pervious to the colon bacillus, probably by causing superficial ulceration with resulting infection of neighbouring viscera. Pyelitis may be caused by advanced constipation, whether the infection spreads through tissues poisoned by an ulcerated process or through the lymphatic channels.

Pyelitis complicating acute or chronic gonorrhœa is rare. This is probably due to the fact that gonorrhœal urethritis does not usually extend to the bladder. While in the male, infection from the blood may occur, in the female gonorrhœal pyelitis is practically always an ascending infection. The trigone being most affected, the ureteral orifices may be deformed.

Chronic pyelitis may be present without any subjective symptoms. The urine is cloudy, but since pyelitis is so often associated with cystitis, this fact loses much of its value as a point in differential diagnosis. When the condition is acute the onset is marked by such features as fever, rigors, severe pain in the back and front of the lumbar region on affected side, sometimes radiating towards the bladder, rapid pulse. Cases without fever, or in which at the onset the temperature gradually increases, are the exception. The fever is usually remittent. Symptoms due to the toxæmia may be present, vomiting, diarrhœa, neuritis, mental disturbances, &c. In

a number of cases the symptoms of cystitis are most prominent. As regards the urine, the quantity is at first diminished, then markedly increased. The pale, yellow, watery colour is characteristic in the later stages. The reaction depends on the bacteria present. Only in cases where, in association with a small amount of pus, a large amount of albumen is present, is one justified in diagnosing involvement of the renal parenchyma, and in such cases tube casts are usually present. In none of our cases has there been much blood in the urine. It is only likely to be present in quantity in cases of pyelitis complicating chronic renal disease. The pain is chiefly due to the inflammation and distension of the renal pelvis. Stretching of the kidney capsule due to swelling of the kidney may account for some of the pain. The radiation of the colicky lumbar pain to the bladder is to be explained by the contractions caused in the effort to overcome the distension of the renal pelvis. Such contractions pass along the ureter to the trigone. In acute cases it is sometimes possible to demonstrate in the blood the presence of the bacteria causing the pyelitis.

The diagnosis is established by the cystoscope and catheterisation of the ureters, but in cases with characteristic symptoms it is often possible to dispense with their aid. With the cystoscope, in cases where there is much pus, the stream of turbid urine may be observed. One can also note whether the volume on the diseased side seems less than on the healthy side, and whether the intervals during which no urine escapes are longer. Catheterisation of the ureters gives accurate information as to the site of an obstruction and the existence of urine pent up in the renal pelvis. For example, Stoeckel has shown that in cases of pregnancy pyelitis the usual site of obstruction is about thirteen cms. above the opening of the ureter at a point corresponding to the level at which the ureter crosses the pelvic brim. In a few cases the obstruction in the ureter was rendered passable by pulling the uterus forward and to the opposite side. Urine pent up escapes from the

catheter in a continuous stream or in very rapidly succeeding drops which can often be converted into a continuous stream by compression of the kidney. In cases of renal pelvis obstruction the functional activity of the kidney is usually decreased, but recovers when the obstruction is overcome. The extent of the involvement of the kidney parenchyma is consequently a matter of uncertainty. But when a pyelitis fails to get well in spite of treatment the probability of pyelonephritis should not be overlooked.

Pyelitis may be simulated by any of the acute inflammatory processes, such as appendicitis, pyosalpinx, subphrenic abscess, pneumonia, gall-bladder trouble, twisted ovarian cyst, &c. I have also seen it mistaken for puerperal sepsis.

An acute pregnancy pyelitis can very much resemble pneumonia, as in one of my cases; against it are the pulse and respirations, which are less frequent than in pneumonia, and the absence of sputum. The patient frequently will complain that the pain extends to the lower abdomen, and although it is aggravated by the respirations, it is more so by movement. The more commonly intermittent temperature and the tenderness of the kidney are to be noted. In the diagnosis from appendicitis the tenderness over the ureter about M'Burney's point is not accompanied by the same rigidity as acute appendicitis. Difficulty in diagnosis should exist only when one of these conditions complicates pyelitis.

Before leaving this I would again point out that bladder symptoms are not always present. This is so in many cases of descending infection, and we also know that cystitis need not be present when the urine is purulent and contains *Bacillus coli*. Therefore, in cases of fever during pregnancy or puerperium, even when there are no bladder symptoms, the urine must be microscopically and, when possible, bacteriologically examined.

As regards the outlook, here, as elsewhere, one finds that most strains of staphylococci and streptococci may invade the living tissues under favourable conditions. This is only

exceptionally so with the *Bacillus coli*. But one must recognise that the virulence of different strains of strepto- and staphylococci varies considerably. Prolonged retention of purulent urine in the renal pelvis leads to poisoning of the cells of the kidney parenchyma. Their resistance may diminish to such an extent that even the *Bacillus coli* is enabled to gain a footing and cause a suppurative pyelonephritis. The outlook in pyelitis is most favourable from a life point of view where the infecting micro-organism is the *Bacillus coli*. The outlook is much graver when the infection is strepto- or staphylococcal. The *Bacillus coli* particularly tends to persist, and even years after an acute attack of pyelitis other attacks can follow and lead to pyonephritis. Pregnancy pyelitis usually subsides after delivery, and only rarely appears during the puerperium. Opitz, amongst 53 cases, found that in only 20 did the pregnancy pursue a normal course, 23 came into labour prematurely, and 10 had labour induced.

In managing pyelitis in general as it affects the female one should adopt an expectant line of treatment unless urgent symptoms have developed. Rest, light diet, anti-septics, particularly salol and urotropin, alkaline or acid fluids, according to the reaction of the urine and the particular micro-organisms which it contains while still within the urinary tract. The administration of large quantities of fluids seems undesirable in cases of obstruction, as it may lead to further embarrassment of the renal pelvis. In pregnancy pyelitis one tries, in addition, the effect of making the patient lie on the healthy side. This in some cases may relieve the compressed ureter. Opinions differ concerning the value of vaccine treatment. The results of such general treatment are good. It particularly assists in tiding a case of pregnancy pyelitis to the time labour sets in. The pyelitis usually disappears spontaneously in the puerperium. Local treatment is indicated in acute cases of pyelitis by the patient's general condition, or the severity of the lumbar pain suggesting excessive distension of the renal pelvis. In

some acute cases it is indicated when conservative treatment has failed. Catheterisation of the ureter, with or without washing out of the renal pelvis by injecting 8 to 12 c.cms. of silver nitrate solution, one in a thousand, or a 5 per cent. solution of protargol, slowly along the catheter, yields good results. Its immediate escape is allowed. Prolonged drainage by means of a catheter reaching to the renal pelvis is advised in severe cases. It is said that the catheter may be left any time up to a week or longer, and be reintroduced if symptoms recur after its removal. This prolonged drainage has reduced the number of cases requiring the termination of pregnancy, or, as may sometimes be preferred, nephrotomy. We have found simple catheterisation of the ureter two or three times weekly, depending on the urgency of the symptoms, to be sufficient in cases of pregnancy pyelitis. In other cases of pyelitis, douching the renal pelvis with one in a thousand nitrate of silver has given good results. When conservative methods and local treatment have failed, and severe symptoms exist, we must recognise that we are not dealing with the pyelitis only, but also with infection of the kidney, and in such cases nephrotomy is indicated.

As regards ureteral fistulæ occurring spontaneously after the radical operation for cancer of the cervix, Wertheim had 6 per cent. in 400 cases, of which 52.4 per cent. healed spontaneously, yielding in every instance a functioning permeable ureter. Only once in a later series of 335 cases was spontaneous healing followed by cessation of kidney function due to complete obstruction. Weibel maintains that mere isolation of the ureter will not cause fistula. In the vast majority of Wertheim's cases it did not, and in many of his fistula cases isolation was not done, as they were very early. Franz isolates the ureter freely in all cases, and has only 5 per cent. of fistulæ. Subperitoneal sepsis may help to cause fistulæ, but Weibel states that no such sepsis was evident in many of Wertheim's cases of fistulæ. Placing sutures too close to the ureter, and in this way dragging and interfering with its blood-supply, and



with the passage of urine, is recognised by Weibel as a cause of fistulæ. Weibel also maintains that the assistant is often responsible in early cases—in holding the ureter aside, he injures it. Bumm, Stoeckel and Franz maintain that gauze drainage of the pelvis predisposes to the occurrence of fistula. Wertheim always uses gauze drainage, and has only 6 per cent. of fistulæ. In Wertheim's second series of 335 cases the percentage of spontaneous fistulæ was again 6 per cent., but of these only 36.8 per cent. healed spontaneously. Of those which do not heal spontaneously, many die from pyelitis. For double-sided cases the outlook is bad. For example, in the cases occurring spontaneously among Wertheim's cases, two healed on both sides with restoration of function, five persisted on both sides, and death occurred in two from recurrence, and in three from pyelitis. A study of Wertheim's results shows that narrowing of the ureter with obstruction can take place with or without symptoms after both easy and difficult operations in cases where the parametrium was or was not carcinomatous, where the ureter had or had not been extensively isolated, immediately or not for months, or even years, after operation, and that pyelitis may follow.

In treating these cases one must remember that spontaneous healing may occur even after the lapse of several months. During the period of waiting, the danger of ascending pyelitis is always present, and, consequently, Stoeckel advises implantation or nephrectomy after six weeks. Wertheim waits for three months, and prefers nephrectomy to implantation, as it is safer and simpler. In cases of double-sided fistulæ Wertheim waits as long as possible without allowing pyelitis to set in, and implants both ureters in the bladder.

In cases where the ureter was injured unintentionally during operation, Wertheim adopted suturing in four cases; two healed, one developed fistula and pyelitis, and the fourth a simple fistula. When the division was complete, implantation in the bladder was followed by good results.

Wertheim resected the ureter in only 1.5 per cent. of cases. In these 11 cases implantation was followed by good results in 10 cases, as far as healing was concerned. One tore out, but in this case there was undue tension. In one case successful implantation was not followed by recovery of function. In this case the kidney was found atrophied and the ureter closed. One of his cases shows that after months stenosis and severe pyelitis may ensue in an implanted ureter which had previously acted satisfactorily. Veit states that when a ureter needs resection the outlook is always most unfavourable. Wertheim agrees with this, and where possible avoids resection of the ureter, preferring to free it from the surrounding cancer, and thus his immediate results are better.

Cystoscopic examination in cases of ureter fistula shows that the ureter orifice is active without expelling urine when it is partially divided. It is not active when it is completely divided. In doubtful cases the catheter will settle the question. It is always arrested at the site of division or accidental ligature. One can also recognise soon after operation, before a fistula develops, whether one or both ureters have been tied. Again, after implantation in the bladder, there is no other way of deciding whether the ureter and its kidney are acting.

The usual cystoscopic examination which is carried out before deciding on operation in cases of cancer of the cervix will show the presence of bullous œdema and the cushion-like œdema of the mucous membrane very frequently. This indicates that either the cancer or the inflammatory process which precedes it has reached the outer wall of the bladder. It is not a contra-indication to operation.

Stone in the female ureter is frequently impacted owing to the three physiological narrowings, the possibility of obstruction from parametritis or paraureteritis, tumours of the adnexæ, &c. False diagnosis of appendix and adnexæ troubles has been made.

The recognition of displacements of the ureter due to

parametritis, myomata, carcinoma, over the surface or under the base of an intra-ligamentary tumour, often influences the success of operations.

In conclusion I would remind you that kidney tuberculosis in women is frequently overlooked; they come with gynæcological complaints, and often with scarcely any bladder symptoms, the urine is slightly turbid, and may or may not contain blood. Many of these cases remain unhealed, and in them early diagnosis of the kidney involved is essential. This can be established only by complete examination of the urine, the use of cystoscope, and animal inoculation.

In this review it was impossible to deal exhaustively with my own cases without adding too much to its length. I hope that gynæcological urology will provide material for more complete discussion at subsequent meetings.

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ART. XX.—*Petrol as a Therapeutic Agent.* By G. ARBOUR STEPHENS, M.D., B.S., B.Sc.; Hon. Physician, Royal Cambrian Institute for the Deaf; Appointed Surgeon under the Factory Act; Hon. Med. Officer, Swansea Collieries Rescue Station.

It is hardly necessary to describe the well-known hydrocarbon which is in daily use as an important factor of our motor traffic.

Its clear appearance, its characteristic odour, and its ready volatility are well known, whilst its properties as a cleanser are held in high respect by every practical housewife.

But up to the present very little has been written on its

qualities from a medical point, and although at present its internal use has not been put to the test, its external value can be spoken of very highly.

As a scalp cleanser it is of great value, especially when the dandruff is excessive, for by removing excess of "grease" it allows of the application, if necessary, of other drugs, such as mercury in the colloid or any other form. Antiseptics are often ineffective in the case of scalp trouble because the oily material interferes with the approach of the medicament into close contact with the offending *morbi causa*, as, for example, the failure of tincture of iodine in ringworm of the scalp, although it may be of value in other parts of the body.

Alopecia areata often yields to treatment when petrol is applied thoroughly and frequently, in addition to an antiseptic.

In cases of *pediculi capitis* petrol is *par excellence* the drug to use, for it not only terminates the life of the parasite in quick time, but it has a good solvent effect on the nits as well. The volatility of petrol adds to its penetrating qualities, and thus gives it a considerable advantage over paraffin, whose smell also makes it somewhat objectionable.

For wounds of the scalp, petrol is very useful, as it enables the surgeon to remove all surgical "dirt" in an easy and thorough manner, and oftentimes without having to shave the scalp.

In pustular eruptions of the beard it will be found that petrol is of value, especially in cases where the "rash" can be traced to such a cause as discharge from the external meatus.

Applied early in cases of barber's rash, petrol is efficacious, and were it used more often as a spray after a public shave the customers would be protected.

Scabies, if taken at the early stages, can be easily checked and cured by petrol, for its penetrating qualities allow of its travelling along the path of the *acarus* and killing it in its lair.

An interesting case of a nurse whom I saw with a dry eczematous patch on the wrist, and which had resisted many treatments, yielded fairly readily to petrol. This trouble occurred after she had been nursing a "dirty" case of "eczematous" head, and had persisted for nearly two years. She had been recommended x-ray treatment, but petrol rendered such a method unnecessary.

I have found petrol to do good in cases of cracked nipples after all other well-known methods of treatment had failed, and the mothers on the point of giving up the nursing of their infants. Petrol is not a panacea, but if it does no harm it certainly cleanses in a most admirable manner, and without much friction, which, in the cases of cracked nipples, is a matter of great consideration.

For soft corns I have used petrol, and its effect has been good in many cases, the ease of application recommending itself to the patients. Here again it helps to remove the mess of sodden skin cells, grease, dirt, and germs, and after such a removal nature has some chance to do its healing work.

Burns of all kinds, and especially those produced by the spluttering of hot metal at steel, copper, or spelter works, are greatly benefited by the early application of petrol.

At my suggestion, several of the works in this district have a quantity of petrol ready at hand in a spray, whence it is blown on to the wounds, which are then covered with a dusting powder of iodoform, salicylic acid, and boric acid.

Its application by means of a spray lends to the cleanliness of the method, which, in the case of cuts, is of especial value, as it allows of the stitches being put in at the surgery without any further preparation.

The value of petrol in burns is, in my opinion, due to the fact that it destroys all germs that have been conveyed from the filthy clothes on to the wound, and at the same time interferes with the broken-down, half-burnt skin cells, from which enzymes have been set free.

These enzymes, being closely related to ptomaines, are

undoubtedly responsible for the poisoning which always takes place in metallic burns, whereby the process of healing is prolonged for weeks, to the discomfort of the patient and the financial loss of the home and the firm.

In operations I have found petrol extremely useful and effective, and possessing none of the irritating and disappointing qualities of tincture of iodine.

Before the incision, the part should be well scrubbed with cotton wool soaked in petrol, and the instruments, if they be suspected, can be thoroughly disinfected by putting them in petrol for a few minutes: after the stitches are inserted all that remains to be done is to swab with petrol and dress with an orthodox dry dressing.

In one case where I removed a large fatty tumour from the labium majus of a woman of fifty, an orthodox dry dressing could not be kept in position, so I contented myself by swabbing with petrol and applying clean cotton wool, the process to be repeated after each soiling which took place at micturition. The wound healed excellently and allowed the patient to get up earlier than she could have done under most other methods of dressing.

Internally, my experience of the use of petrol is limited, save in the case of pyorrhœa alveolaris, when I have seen its application attended by very good results. It allows the gums to be cleaned and relieved of decomposing material in an easy and pleasant manner, for its taste is not objectionable.

In these cases it is best applied by soaking small pledgets of cotton wool in the petrol and applying by means of a forceps.

For operations about the mouth I venture to think its use would be of great value; but at present I cannot speak from personal experience.

One word of warning should be issued as regards the use of petrol, and that is, that it should never be handled near a fire or a naked light, such as gas, or a candle, or an oil lamp, for on account of its great volatility it readily gets ignited, and with disastrous consequences.

## PART II.

### REVIEWS AND BIBLIOGRAPHICAL NOTICES.

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*A Course in Normal Histology.* Part II. By RUDOLF KRAUSE, A. o. Professor of Anatomy at the University of Berlin. Translation by PHILIPP J. R. SCHMAHL, M.D. New York. London: Rebman, Ltd. No date. Royal 8vo. Pp. x and 406.

THE first part of Professor Krause's "Normal Histology" was recently reviewed in this journal. In it is given a concise and useful account of general micro-technique.

The present volume (Part II.) gives in detail the results obtained by the application of the methods described in Part I. to the study of the tissues and organs of the animal body. A special feature is, that it is illustrated throughout by coloured plates. In all there are 98 of these, containing 208 figures, and it is not too much to say that it would be difficult to surpass them in excellence. They have this additional merit also—that they are obviously true to the actual preparations from which they have been made, and full details of the making of these are given, including every step leading up to the final result. A sub-title represents the work as "a guide for practical instruction in histology and microscopic anatomy." This it undoubtedly is.

As is natural, the structure of the cell is first dealt with. For this purpose use is made of the cells of the liver of the salamander and axolotl, of bone marrow, epidermis, parotid gland, of the skin of the pike (pigment cell), and of the embryo of the horse ascaris for cell division. The tissues are then taken up, beginning with the epithelia and passing on to the connective tissues, muscle, nerve, and blood. This is the orthodox procedure, but it is more than usually well done, and the choice in the selection of material is very sound—in many cases strikingly so.

The organs are then considered, beginning with those of circulation, and passing on through the ductless glands, the organs of digestion, of respiration, of urinary secretion, and of reproduction to the nervous system and sense organs. If any part of the work could be said to be better than the others, it is undoubtedly the section on the nervous system. The methods here are very carefully described in every detail, and the time which they involve is well repaid by the beautiful results shown in the illustrations. Altogether, nothing more useful as a practical aid to micro-technique has appeared for a long time, and both author and publisher are to be congratulated on the excellence of the work. The translation is also good, and shows little to indicate that Dr. Schmahl is writing in a language foreign to him.

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*The Nervous and Chemical Regulators of Metabolism.*

By D. NOËL PATON, M.D., B.Sc.; Professor of Physiology in the University of Glasgow. London: Macmillan & Co., Ltd. 1913. Demy 8vo. Pp. x + 217.

FROM time to time it is important to take stock of our knowledge in every department of medical science, even when that knowledge is being rapidly added to, and perhaps modified by further researches. In the present series of lectures Professor Noël Paton has carefully and critically compiled all that up to the present has stood the test of repeated investigation concerning the function and mode of action of the so-called internal secretions. The author is himself well known as a worker in this branch of physiology, and his lectures in consequence possess the stamp of personal authority, and should prove of great value as a stimulus to future research, more especially as he does not hesitate to state his own views and to indicate the lines along which more investigation is required. To the physician as well as to the physiologist the book should prove most useful. Without unnecessary detail a complete picture is given of the working, as far as we can at present understand it, of the various ductless glands. A



special attempt is also made to deal with the inter-relationships of the glands, and in doing so many facts are adduced from clinical observation as well as from animal experimentation. Criticism of the book in detail is unnecessary, and would prove most difficult. We have read it with pleasure and much profit, and can strongly recommend it to any member of the profession who is anxious to keep abreast of modern thought concerning the chemical and nervous regulators of metabolism.

*The Student's Handbook of Gynæcology*. By GEORGE ERNEST HERMAN, M.B., &c.; Consulting Obstetric Physician to the London Hospital, &c. Second Edition, revised by the Author, with additions by R. DRUMMOND MAXWELL, M.D., &c.; Assistant Obstetric Physician to the London Hospital. London: Cassell & Co. Cr. 8vo. Pp. xiii + 587.

IN the preparation of this revised edition of his work Dr. Herman has been assisted by Dr. Maxwell, and six colour plates have been added. Much useful information will be gleaned from a perusal of the book in which the text is well written and the illustrations are carefully drawn. Most of the ordinary operations are described, but we are surprised that no mention is made of an operation so commonly practised as that of Gilliam, and that shortening of the utero-sacral ligaments is not deemed worthy of notice. Many instruments are illustrated, and we note with pleasure a small vaginal clamp for use in Wertheim's operation for cancer.

The number of unfortunate medical men and women who have been infected with digital syphilis would be very small if precautions were taken in all cases to inspect thoroughly the extern genitals and to wear finger stalls or gloves. We are surprised, therefore, to find that Dr. Herman advocates the following:—"If by digital examination you find enough to account for the symptoms, there is no need to inspect the parts or to use a speculum or sound." Teaching such as this, which necessitates

unseemly groping under the clothes, makes indecent an examination which should be strictly practical.

"The Student's Handbook of Gynæcology" is a convenient size for the pocket, and will be found advantageous not only to the student, but to the practitioner who is desirous of some knowledge of gynæcology without reading a large manual. In addition to the six colour plates, there are 194 figures in the text.

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*Ionic Medication: the Principles of the Method and an Account of the Clinical Results obtained.* By H. LEWIS JONES, M.D.; Fellow of the Royal College of Physicians of London; Consulting Medical Officer to the Electrical Department in St. Bartholomew's Hospital; Associate of the Institute of Electrical Engineers, &c. London: H. K. Lewis. 1913. Cr. 8vo. Pp. viii + 131.

IN writings on the medical uses of electricity, Dr. Lewis Jones's name is a hallmark of excellence. "Ionic Medication" is a most satisfactory book, not merely giving us a reliable account of the remarkable progress of the application of "ionic" methods to Medicine, but indicating in a clear and convincing way the paths along which that progress may be expected to develop. The physical principles involved in the method are fully and yet simply explained. References are frequently made to the original papers in which success has been claimed for any special line of treatment, and in many cases the author attests the value of these methods from personal trial. We heartily endorse Dr. Jones's protest against the indiscriminate use of ionic medication by incompetent persons, and often for conditions quite unsuitable for such a mode of treatment.

The range of usefulness of ionic medication is remarkable. To the dermatologist its uses in ulcers, cancers, warts and corns, as well as in ringworm and alopecia, are for the most part well known. The physician may employ the ionic treatment with success in neuralgias, myositis, and various arthritides. In ankylosis, sclerosis, keloid

and scars, it has been invaluable, while the oculist and dentist may find in the method a useful adjunct to their treatment. The very universality of the method and its remarkable success lend it to abuse and quackery, but Dr. Jones's book should go far to guide us as to what cases are most likely to benefit, and to suggest what form of ionic treatment is the most suitable for any given case.

The author inclines to the view that with improved technique the treatment of ringworm by ionic methods may become established. Riddell has had very marked success. Children are not very good subjects for ionic medication, but if success could be ensured—and this would seem to be merely a matter of perfecting the technique—there are many reasons why this method would be preferable to any other existing treatment.

The method of administering a salt internally and liberating its ions in the tissues by introduction of an electrolysing needle is interesting, and capable of development. There is much food for thought in the book. We have no hesitation in heartily recommending it.

*The Surgery of the Stomach: a Handbook of Diagnosis and Treatment.* By HERBERT J. PATERSON, M.A., M.C., M.B. (Cantab.), F.R.C.S. London: James Nisbet & Co., Ltd. 1913. Pp. xiv + 312. With Plates.

IN the preface the author tells us that he has attempted to give a practical account of "The Diagnosis and Treatment of those affections of the stomach which are amenable to direct surgical interference." Any one acquainted with Mr. Paterson knows the thoroughness with which he does anything he undertakes. Those who have not the pleasure of knowing him have only got to read this volume to appreciate his work. His experience in gastric surgery is such as fits him well for the task he undertook in writing this book. The entire work is eminently practical, and the teaching is clear and forceful. He lays great stress in the opening chapter upon the importance of taking a careful

and accurate history of the origin and progress of the patient's illness. "Laboratory investigations are an aid—and a valuable aid—not a substitute for clinical work." The book is decidedly a significant contribution from a good, sound, practical surgeon of his own experience in connection with this important subject. Our views do not coincide in every respect with those stated by the author, nevertheless his opinions deserve every consideration.

We heartily congratulate Mr. Paterson on the success of his efforts, and commend the study of the book to every physician and surgeon as well as to every general practitioner.

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*Transactions of the American Gynæcological Society.*  
Vol. XXXVI., for the Year 1912. Philadelphia : W. J. Dornan. 1912. Pp. lvi + 502, with Index.

THE present volume of Transactions of this well-known Society is more than usually interesting, and fully maintains its reputation. Amongst the different articles it contains may be mentioned an interesting series on pro-lapse of the uterus by such well known gynæcologists as Noble, Baldy, Goffe, Polk, and Vineberg. There is also another series dealing with uterine cancer, by J. G. Clark, Peterson, Taylor, Cullen, and Neel, and several interesting papers deal with toxæmias of pregnancy and eclampsia. The President, Dr. Howard Kelly, in his address, gives a most interesting account of "The History of Vesico-vaginal Fistula."

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*Book for Mothers on the Management of Children in Health and in Disease.* By A. M. USHER. With Introduction by FRANCIS B. RUTTER, M.D., F.R.C.S. London : J. & A. Churchill. 1913. Cr. 8vo. Pp. xi + 106.

THIS is a practical little book written in a pleasant chatty style. It is, as its name implies, intended solely for the lay public, and is written by a lady who does not pretend to have any medical knowledge. It covers a good deal of

ground, and contains many sensible and practical suggestions, but its great fault is lack of proper arrangement. Although it is supposed to be divided into three parts—infancy, childhood, and youth—they are really very much mixed up, and each section lacks any definite arrangement. But for the fact that there is a good index it would be impossible to find anything in the book without prolonged search.

The authoress acknowledges she wrote it in pencil during the times she was nursing the youngest of her twelve children. It now would be worth her while when the baby is grown big, to sit down, without interruptions, and systematically rearrange the whole book, taking some good text-book as a model.

The book has the merit of cheapness. It costs only one shilling.

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*Practical Bacteriology, Blood Work and Animal Parasitology.* By E. R. STITT, A.B., Ph.G., M.D.; Head of Department of Tropical Medicine, U. S. Naval Medical School, &c., &c. Third Edition. London: H. K. Lewis. 1913. Post 8vo. Pp. xv. + 411. Four Plates and 106 other Illustrations.

INTENDED primarily for workers in the Tropics, but equally useful for those at home, Stitt's handbook has been, since its first publication, one of the best of the smaller books on the subject. Now, with the appearance of the third edition, its value has been considerably enhanced. Although not appreciably larger than its predecessors, it contains much added information, and is now thoroughly up-to-date. Naturally there has been less addition to the chapters on bacteria, and more to that on protozoa, in accordance with the greater amount of attention which has latterly been directed to unicellular animals; and in addition the chapters on the higher parasites and disease carriers have been enlarged, so that practically all the medically important genera can with the help of the book be distinguished and named.

Special attention may be drawn to the charts and tables, of which those dealing with the condition of the urine in kidney diseases and classifying the intestinal bacteria are new, all greatly facilitating clinical investigation.

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*A Manual of Medical Treatment, or Clinical Therapeutics.*

By I. BURNEY YEO, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London; Consulting Physician to King's College Hospital; Honorary Fellow of King's College. Fifth Edition, by RAYMOND CRAWFURD, M.A., M.D., Oxon., F.R.C.P., Physician and Lecturer on Clinical Medicine to King's College Hospital, Fellow of King's College, London, &c.; and E. FARQUHAR BUZZARD, M.A., M.D. Oxon., F.R.C.P., Physician for Out-Patients to St. Thomas's Hospital and to the National Hospital for the Paralysed and Epileptic, Queen Square, &c. In two Volumes. Cr. 8vo. London: Cassell & Company, Ltd. 1913. Vol. I. Pp. xv + 834. Vol. II. Pp. viii + 846.

WITH the history of this work before us, adverse criticism is quite uncalled for. The first edition appeared in July, 1893, and was twice reprinted early in the following year. The second edition was published in January, 1895, and was reprinted on five occasions. The third edition came out in August, 1902, and was four times reprinted. The fourth edition appeared in January, 1909, and was re-issued in January, 1910, and February, 1912, and now (in September, 1913) a new edition—the fifth—of a deservedly popular work “has been rendered necessary by the advances that have been made in Medicine since the publication of the fourth edition” in 1909.

Dr. Burney Yeo has been unable to share the work of revision, the whole of which has been undertaken by the co-editors of the fourth edition, Dr. Raymond Crawford and Dr. Farquhar Buzzard. The latter author is responsible for the section on Nervous Diseases, Dr.

Crawfurd for all the remaining sections. Notwithstanding Dr. Yeo's disappearance from active participation in the bringing out of this new edition, the work retains its characteristic form and features, to which it owes so much of its success in the past—it remains “Burney Yeo's Manual of Medical Treatment.” We venture to state that it is more than this title implies—it is a very excellent “Practice of Medicine,” for its pages contain a succinct description of the diseases to which the great systems of the body are liable, of constitutional diseases, and of specific infective diseases.

The distinctive characters of the present edition are the attention which has been paid by the authors to recent advances in medical therapeutics, more particularly in the domain of vaccine-therapy. For this no doubt important addition to the physicians' armamentarium the authors show plainly that they hold no retaining brief, and the reader may refer with confidence to what is said on the subject whenever its merits are discussed in connection with any given infective malady. Close attention has also been given to the use of *x*-ray photography in diagnosis.

Enough has been stated to show that this fifth edition of a standard work on medical therapeutics has been well kept up to date. Accordingly, it gives us pleasure to commend it to medical practitioners and medical students alike.

*A Text-book of Midwifery for Students and Practitioners.*

By R. W. JOHNSTONE, M.A., M.D., F.R.C.S. Edinburgh Medical Series. Illustrated. London : Adam & Charles Black. Pp. xxvi + 485, with Index.

THIS is a clearly written and short work on midwifery intended for students and practitioners. It is divided into eight sections dealing successively with anatomy, the physiology of pregnancy, of labour, and of the puerperium ; the pathology of pregnancy, of labour, and of the puerperium, and operative obstetrics. A very good

description of modern midwifery is given. The illustrations are clear, though rather diagrammatic. The diagram of "footling" presentation is hardly correct. Dr. Johnstone uses a different indicator in the different presentations to describe the position of the fœtus. The occiput in the vertex, chin in the face, sacrum in the breech, &c. Surely a student has enough to remember without complications that are unnecessary. The back serves for a common indicator in all these presentations and so saves one complication.

We are sure the book will be found most useful.

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*Blood-pressure : from the Clinical Standpoint.* By FRANCIS ASHLEY FAUGHT, M.D.; Instructor in Medicine at the Medico-Chirurgical College, Philadelphia. Illustrated. Philadelphia and London : W. B. Saunders Company. 1913. 8vo. Pp. 281.

WHAT, perhaps, strikes the reviewer most in reading over this book is the large number of misprints. The work, which is of a rather ambitious nature, has evidently been put together with a certain degree of carelessness, and indeed one gets the impression that the proof sheets have been read over by some one who is quite unacquainted with medical terminology. "Bacterial" for "brachial," "grandular" for "granular," in speaking of the kidney, are but two samples out of many that mar the book. Contradictions in matter of fact are also met with; thus in one place one reads that it is doubtful whether disease of the suprarenal glands really causes much change in the blood-pressure, and a few pages further on we find it stated dogmatically that low blood-pressure is a symptom of Addison's disease, owing to the disease of the suprarenals that is present.

While calling attention to these defects in the work, we must add in fairness that the author has collected together a good deal of information on the subject of blood-pressure in clinical work, though we are of opinion that an attempt is made to bestow a dignity on clinical sphygmomanometry



beyond its value. Blood pressure estimations are doubtless of much value in many cases, but an attempt to make such estimations of diagnostic and prognostic value in cases where they are really of little service will only tend to bring the whole subject into disrepute.

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### WORKS ON DISEASES OF THE RECTUM.

1. *Cancer of the Rectum: Its Surgical Treatment.* By HARRISON CRIPPS, F.R.C.S.; Consulting Surgeon to St. Bartholomew's Hospital; Member of Council, Royal College of Surgeons. London: J. & A. Churchill. 1913. Royal 8vo. Pp. x + 255.
2. *On Diseases of the Rectum and Anus.* By HARRISON CRIPPS, F.R.C.S.; Consulting Surgeon to St. Bartholomew's Hospital; Member of Council of the Royal College of Surgeons. Fourth Edition. London: J. & A. Churchill. 1913. 8vo. Pp. xii + 588.

1. THIS book consists of the sixth edition of the author's Jacksonian Prize Essay reprinted to include the opening address on the Surgical Treatment of Rectal Cancer, delivered at the annual meeting of the British Medical Association, held at Liverpool in 1912.

In this edition of the Jacksonian Prize Essay a table is given of 445 consecutive cases of rectal cancer in the private practice of the author. The chief value of the book consists in this table which has been brought up-to-date, and the after history of most of the cases traced, so that it provides an interesting comparison in the cases seeking advice, between those in which radical operative treatment is possible, and those too far advanced and only suitable for colotomy. The final results of both methods of treatment enable one to form an idea of the expectation of life in cancer of the rectum.

We cannot but regret that the author has not brought the text of the book up-to-date.

2. THIS book is the fourth edition of the author's work

on Diseases of the Rectum and Anus reprinted to include the opening address on the Surgical Treatment of Rectal Cancer, delivered at the annual meeting of the British Medical Association, Liverpool, 1912, and including the sixth edition of the Jacksonian Prize Essay on Cancer.

The author publishes two new editions of his books in a simple way by including one in the other. The value of the book would have been enormously increased if the author had brought it up-to-date in other respects, for beyond adding details of clinical cases, the illustrations have not been improved, and the text is far from being up-to-date.

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*Preventive Medicine and Hygiene.* By MILTON J. ROSENAU. With Chapters on Sewage and Garbage, by GEORGE C. WHIPPLE; on Vital Statistics by CRESSY L. WILBUR; and on Prevention of Mental Diseases by THOMAS W. SALMON. New York and London; D. Appleton & Co. 1913. Royal 8vo. Pp. xxxiii + 1074.

THIS excellent treatise covers the entire field of hygiene and sanitation, and will make the reader conversant with the latest views and practice.

In his preface the author claims an unusually wide experience :—

“ During twenty-three years of varied experience in public health work it has been my good fortune to have served as quarantine officer, in epidemic campaigns, in epidemiological investigations, and in public health laboratories, at home, on the Continent, and in the Tropics. The fruits of these experiences are reflected in this book, which may be taken as representing my personal views gained in the field, in the laboratory, in the class-room, and in administrative office.”

His book fully justifies this claim, and deserves a convenient place on the reference shelf. There is a full and clearly printed index which fills forty pages.

## PART III.

### MEDICAL MISCELLANY.

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*Reports, Transactions, and Scientific Intelligence.*

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#### ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE Winter Session of 1913-1914 was formally opened on Wednesday, October 25th, by the President, Mr. Richard Dancer Purefoy, in the presence of members of the Council and of the Professors of the Schools of Surgery.

THE PRESIDENT, in the course of his inaugural address, said that it was a pleasure for the members of the Council to be there, as they all took the deepest interest in the progress of the students and the welfare of the school established for their benefit. He had the honour for ten years of being a professor, and his classes had always treated him well, sympathetically, and indulgently. The students would find when they came to seek appointments that the fact that they had their names decorated by a long list of prizes would be of no small advantage. Continuing, the President alluded to the departure of Professor Geddes, who had conferred lasting services on the school. His great energy and his thoroughness in everything largely contributed to the fact that they had now a dissecting-room a credit to the College, and which would bear comparison with any dissecting-room in the Kingdom. Professor Geddes had obtained a very fine appointment in the Land of the West, and they all wished him the utmost success that any man could desire to achieve. He was not the first great distinguished Scotsman whose reputation had been made in this school, for it had proved the starting-point of the career of many. They had thought now, however, that it was time for an opportunity to be given to one of their own countrymen, and he was sure from their attitude that what the Council had done met with approval. Professor Evatt, who began work now, was no stranger, as he had worked in the school before, and the laurels he had won in another sphere would not be less lasting and abundant than those he would earn there.

The President then distributed the following prizes and certificates :—

Systematic Anatomy.—H. M. Alexander, first prize (£2) and medal; K. Elmes, second prize (£1) and certificate.

Practical Anatomy.—First Year—H. Graham, first prize (£2) and medal; H. M. Alexander, second prize (£2) and certificate. Second Year—J. A. M'Kinnon, first prize (£2) and medal; D. J. Steele, second prize (£1) and certificate.

Practice of Medicine.—Robert P. Weldon, first prize (£2) and medal; second prize, no award.

Surgery.—Trevor S. Smith, first prize (£2) and medal; W. Lumley, second prize (£1) and certificate.

Midwifery.—G. M. C. Powell, first prize (£2) and medal; second prize, no award.

Pathology.—D. V. O'Connor, first prize (£2) and medal; J. O'Brien, second prize (£1) and certificate.

Physiology.—H. M. Alexander, first prize (£2) and medal; H. Graham, second prize (£1) and certificate.

Chemistry.—James F. Seale, first prize (£2) and medal; second prize, no award.

Physics.—J. F. Seale, first prize (£2) and medal; D. J. Steele, second prize (£1) and certificate.

Dental Anatomy.—T. Edwards, first prize (£2) and medal.

Barker Anatomical Prize.—£26 5s., D. V. O'Connor.

Carmichael Scholarship.—£15, C. W. Robinson.

Mayne Scholarship.—£8, G. E. Pepper.

Gold Medal in Operative Surgery.—No award.

Silver Medals in Operative Surgery.—E. J. Palmer and E. O'Connell (equal).

Stoney Memorial Gold Medal.—J. A. Fretton.

Practical Histology.—J. A. M'Kinnon, first prize (£2) and medal; L. L. Gick, second prize (£1) and certificate.

Practical Chemistry.—H. L. Mooney, first prize (£2) and medal; W. E. Cooke and J. G. Thornton (equal), second prize (£1) and certificate.

Public Health and Forensic Medicine.—M. Moran, first prize (£2) and medal; H. G. Villiers, second prize (£1) and certificate.

Materia Medica.—C. W. Robinson, first prize (£2) and medal; M. Moran, second prize (£1) and certificate.

Biology.—M. J. Briscoe, first prize (£2) and medal; G.

Dunne and J. F. Seale (equal), second prize (£1) and certificate.

Surface and Topographical Anatomy.—J. A. M'Kinnon, first prize (£2) and medal; K. Elmes, second prize (£1) and certificate.

HONOUR CERTIFICATES.

PRACTICAL ANATOMY.

*Senior.*

First Class Honour Certificates.—Mr. K. Elmes, Mr. C. A. M'Cay, Mr. C. W. Robinson.

Second Class Honour Certificates.—Miss E. Budd, Mr. J. A. Fretton, Mr. B. Hirson, Mr. J. M'Guire, Mr. J. A. M'Kinnon, Miss M. M'Mullen, Mr. J. P. Pegum.

*Junior.*

First Class Honour Certificate.—Mr. J. F. Seale.

Second Class Honour Certificates.—Mr. M. Briscoe, Mr. J. C. Rutherford.

SYSTEMATIC ANATOMY.

First Class Honour Certificates.—Miss E. Budd, Mr. K. Elmes, Mr. H. Graham, Mr. J. A. M'Kinnon, Mr. C. W. Robinson.

Second Class Honour Certificates.—Mr. B. J. Daunt, Mr. J. A. Fretton, Mr. C. A. M'Cay, Mr. W. J. M'Elhinney, Mr. J. M'Guire, Mr. B. Hirson, Miss M. M'Mullen, Mr. E. Parker.

DENTAL ANATOMY.

First Class Honour Certificates.—Mr. L. B. Leonard, Mr. T. G. O'Connor, Mr. C. D. Roe, Mr. P. F. Smith.

Second Class Honour Certificates.—Mr. P. E. Brown, Mr. W. S. Canton, Mr. A. B. Cole, Mr. G. A. Fitzgibbon, Mr. H. J. Higgins.

SURFACE AND TOPOGRAPHICAL ANATOMY.

First Class Honour Certificates.—Mr. B. Hirson, Mr. J. P. Pegum.

Second Class Honour Certificates.—Mr. H. M. Alexander, Miss E. Budd, Mr. J. F. Coffey, Mr. B. J. Daunt, Mr. J. A. Fretton, Mr. H. Graham, Mr. C. Hewson, Mr. E. M'Carthy, Mr. C. A. M'Cay, Mr. C. W. Robinson, Mr. W. G. Thompson.

# ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—WALTER G. SMITH, M.D., F.R.C.P.I.  
General Secretary—J. A. SCOTT, M.D., F.R.C.S.I.

## SECTION OF MEDICINE.

President—J. O'CARROLL, M.D., F.R.C.P.I.  
Sectional Secretary—F. C. PURSER, M.D., F.R.C.P.I.

*Friday, October 31, 1913.*

THE PRESIDENT in the Chair.

*Pathology and Treatment of Dropsy, in relation to Colloids.*  
THE PRESIDENT of the Academy (DR. WALTER SMITH) read a paper upon this subject, in which he developed some recent views upon the causation and pathology of œdema and dropsical effusions.

The chief factors of œdema are these :—

- (I.) Vascular—*i.e.*, blood-vessels and lymph-vessels.
  - (a) Increased supply or inflow of transudate.
  - (b) Obstructed or diminished outflow through—
    - (i.) Lymphatics.
    - (ii.) Veins and capillaries.
- (II.) Osmotic pressure.
- (III.) Physico-chemical alterations in the blood.
- (IV.) Alterations in cell nutrition :—
  - (a) Blood-vessels and lymph-vessels.
  - (b) Tissue cells.
  - (c) Nervous influences.
- (V.) Turgescence of cells.

Special emphasis was laid upon the condition of watery turgescence of cells, and illustrative experiments were shown in favour of the hypothesis of Martin H. Fischer (Cincinnati) that even a very slight degree of, or increase in, acidity leads to turgor of cells.

Renal and cardiac dropsy were respectively discussed, mainly from the colloid chemical point of view, and the bearings of this idea upon treatment were pointed out.

[This communication appears in full at page 395.]

THE PRESIDENT remarked that the paper was a most valuable one, and rare in the history of the Academy. Referring to the possibility of œdema occurring without any discover-

able fault of the kidneys or heart, he directed attention to a form of acute moderate dropsy met with in alcoholic cases without any sign of renal difficulty when examined by ordinary methods. This condition was found to clear up rapidly after a few days' rest. The rarity of œdema in cases of mitral stenosis, and its frequent occurrence in connection with mitral regurgitation, was a matter of interest. With regard to the evil effect of saline purgatives in Bright's disease, it struck him that possibly it might be that the normal tendency of the kidney to get dropsical itself may be increased by the absorption of the salt—sulphate of magnesium—which was so often administered in cases of dropsy. He was also struck by the evil effect of normal saline injections in inflammatory conditions, especially in acute pneumonia.

PROFESSOR THOMPSON inquired if all œdema included in the definition meant accumulation of fluid in the tissue spaces. He pointed out that tissue fluid was different from the fluid present in the lymph channels. The imbibition idea was not, he thought, brought home so closely to the circumstances as one would like, and it must be admitted that there were other factors which were potent in causing œdema. Alteration in capillary pressure certainly produced no influence on increase of fluid in tissues, except in the case of the liver. He considered that alteration in the capillary pressure without alteration in the cell walls had no influence in the production of œdema.

DRS. PARSONS, CROFTON, and BEWLEY also spoke.

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#### LITERARY INTELLIGENCE.

MESSRS. J. & A. CHURCHILL of London announce the following new editions:—*The Diseases of Children*. By SIR JAMES FREDERIC GOODHART, Bt., M.D., LL.D., F.R.C.P., Consulting Physician to Guy's Hospital; and GEORGE FREDERIC STILL, M.D., F.R.C.P.; Professor of Diseases of Children, King's College. Tenth Edition. Revised. With 42 Illustrations. 16s. net. *A Short Practice of Midwifery for Nurses*. By HENRY JELLETT, M.D. (Dublin), F.R.C.P.I., Master of the Rotunda Hospital, Dublin. Fourth Edition. Revised. With 6 Plates and 169 Illustrations. 7s. 6d. net. *Lectures on Medicine to Nurses*. By HERBERT E. CUFF, M.D., F.R.C.S., late Medical Superintendent, North-Eastern Fever Hospital, London. Sixth Edition. 29 Illustrations. 3s. 6d. net.

# SANITARY AND METEOROLOGICAL NOTES.

## VITAL STATISTICS.

*For four weeks ending Saturday, November 1, 1913.*

### IRELAND.

THE average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended November 1, 1913, in the Dublin Registration Area and the twenty-six principal provincial Urban Districts of Ireland was 17.2 per 1,000 of their aggregate population, which for the purposes of these returns is estimated at 1,199,180. The deaths registered in each of the four weeks of the period ending on Saturday, November 1, and during the whole of that period in certain of the districts, alphabetically arranged, correspond to the following annual rates per 1,000 :—

COUNTY BOROUGH, &c.	Week ending				Average Rate for 4 weeks
	Oct. 11	Oct. 18	Oct. 25	Nov. 1	
<b>27 Town Districts</b>	<b>17.1</b>	<b>16.0</b>	<b>17.8</b>	<b>17.2</b>	<b>17.0</b>
Dublin Reg. Area ...	18.9	17.7	19.0	21.2	19.2
Dublin City ...	20.8	19.5	20.3	23.5	21.0
Belfast ...	16.7	14.6	15.1	13.4	15.0
Cork ...	24.5	13.6	20.4	15.6	18.5
Londonderry ...	7.6	14.0	11.4	17.8	12.7
Limerick ...	12.2	8.1	10.8	10.8	10.5
Waterford ...	15.2	3.8	30.4	11.4	15.2

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases registered in the 27 districts during the week ended Saturday, November 1, 1913, were equal to an annual



rate of 2.0 per 1,000. Among the 102 deaths from all causes in Belfast were 5 from scarlet fever and 6 from diarrhoeal diseases. Included in the 14 deaths from all causes for Londonderry were one from measles, and 4 from diarrhoeal diseases. Two of the 7 deaths from all causes for Galway were from whooping-cough. Three of the 7 deaths for Kilkenny were from diarrhoea and enteritis of children under 2 years of age ; and 2 of the 6 deaths from all causes for Clonmel were from enteric fever.

### DUBLIN REGISTRATION AREA.

The Dublin Registration Area consists of the City of Dublin, as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 403,000 ; that of the City being 308,187, Rathmines 38,769, Pembroke 29,942, Blackrock 9,161, and Kingstown 16,941.

In the Dublin Registration Area the births registered during the week ended November 1 amounted to 202—108 boys and 94 girls, and the deaths to 174—85 males and 89 females.

### DEATHS.

The deaths registered, omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the Area, represent an annual rate of mortality of 21.2 per 1,000 of the population. During the forty-four weeks ending with Saturday, November 1, the death-rate averaged 20.4, and was 1.3 below the mean rate for the corresponding portions of the ten years, 1903–1912.

The total deaths registered, numbering 174, represent an annual rate of 22.5 per 1,000. The annual rate for the past forty-four weeks was 21.8 per 1,000, and the average annual rate for the corresponding period of the past ten years was 22.8 per 1,000 of the mean population for all deaths registered.

The deaths included one from dysentery, 2 from diphtheria, one from influenza, 2 from measles, and 14 deaths from diarrhoea and enteritis of children under 2 years. In each of the 3 preceding weeks deaths from diphtheria had been 2, 2, and 0 ; deaths from influenza had been 0, one, and 0 ; deaths from measles had been one, one, and 2 ; and deaths

from diarrhœa and enteritis of children under 2 years had been 13, 15, and 13.

Of 31 deaths from tuberculosis (all forms) 18 were attributed to pulmonary tuberculosis, 2 to tubercular meningitis, 4 to abdominal tuberculosis, 2 to tuberculosis of joints, one to tuberculosis of kidney and bladder, and 4 to disseminated tuberculosis. In each of the 3 preceding weeks, deaths from all forms of tuberculosis had been 23, 18, and 25.

There were 11 deaths from cancer, or malignant disease.

The deaths of 2 infants were caused by convulsions, both being under one year of age. There were 6 deaths of infants from congenital debility, one from congenital malformations, and 7 deaths from premature birth.

The 12 deaths from pneumonia included 7 from broncho-pneumonia, one from lobar pneumonia, and 4 from pneumonia (type not distinguished).

Fourteen deaths were caused by organic diseases of the heart. There were 14 deaths from bronchitis.

Two deaths were assigned to accidental violence or negligence.

In seven instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 2 infants under one year of age, and the deaths of 3 persons aged 65 years and upwards.

Fifty-four of the persons whose deaths were registered during the week were under 5 years of age (36 being infants under one year, of whom 13 were under one month old), and 38 were aged 65 years and upwards, including 29 persons aged 70 and upwards; among the latter were 20 aged 75 years and upwards.

#### STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

The usual returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," and the "Tuberculosis Prevention (Ireland) Act, 1908," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; by Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; by Mr. Manly, Executive Sanitary Officer for

Pembroke Urban District; by Mr. Mooney, Executive Sanitary Officer for Blackrock Urban District; by the Executive Sanitary Officer for Kingstown Urban District; and by Dr. Bailie, Medical Superintendent Officer of Health for the City of Belfast.

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended November 1, 1913, and during each of the preceding three weeks. An asterisk (\*) denotes that the disease in question is not notifiable in the District.

CITIES AND URBAN DISTRICTS	Week ending	Measles	Rubella, or Epidemic Rose Rash	Scarlet Fever	Typhus	Relapsing Fever	Diphtheria	Membranous Group	Pyrexia (origin uncertain) <sup>a</sup>	Enteric or Typhoid Fever	Erysipelas	Puerperal Fever	Whooping-cough	Cerebro-spinal Fever	Tuberculous Phthisis ( <i>Phthisis</i> ).	Acute Polio-myelitis	Total
City of Dublin	Oct. 11	•	•	11	1	-	12	-	1	13	5	-	•	-	21	-	64
	Oct. 18	•	•	19	-	-	3	-	1	8	6	-	•	-	23	-	60
	Oct. 25	•	•	21	-	-	3	-	-	5	3	-	•	-	23	-	55
	Nov. 1	•	•	10	-	-	7	-	-	2	4	-	•	-	19	-	42
Rathmines and Rathgar Urban District	Oct. 11	•	•	-	-	-	1	-	-	-	-	-	•	•	•	•	1
	Oct. 18	•	•	2	-	-	8	-	-	-	-	-	•	•	•	•	10
	Oct. 25	•	•	1	-	-	3	-	-	1	1	-	•	•	•	•	6
	Nov. 1	•	•	-	-	-	2	-	1	1	-	-	•	•	•	•	4
Pembroke Urban District	Oct. 11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	•	-
	Oct. 18	-	-	2	-	-	-	-	-	-	-	-	1	•	-	•	3
	Oct. 25	-	-	1	-	-	1	-	-	2	-	-	2	•	1	•	7
	Nov. 1	-	-	-	-	-	1	-	-	1	-	-	3	•	-	•	5
Blackrock Urban District	Oct. 11	•	•	-	-	-	-	-	-	1	-	-	•	-	•	•	1
	Oct. 18	•	•	-	-	-	2	-	-	-	-	-	•	-	•	•	2
	Oct. 25	•	•	-	-	-	-	-	-	-	-	-	•	-	•	•	-
	Nov. 1	•	•	1	-	-	-	-	-	-	-	-	•	-	•	•	1
Kingstown Urban District	Oct. 11	•	•	-	-	-	1	-	-	-	-	-	•	•	-	•	1
	Oct. 18	•	•	-	-	-	1	-	-	-	-	-	•	•	-	•	1
	Oct. 25	•	•	-	-	-	-	-	-	1	-	-	•	•	-	•	1
	Nov. 1	•	•	-	-	-	-	-	-	-	-	-	•	•	1	•	1
City of Belfast	Oct. 11	•	•	55	4	-	4	-	-	4	7	-	•	-	4	2	80
	Oct. 18	•	•	76	1	-	14	-	-	5	14	1	•	-	5	3	119
	Oct. 25	•	•	72	-	-	8	1	-	3	3	-	•	-	8	2	97
	Nov. 1	•	•	66	-	-	8	1	-	2	4	-	•	-	10	1	92

<sup>a</sup> Continued Fever

### CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended November 1, 1913, 11 cases of enteric fever were admitted to hospital, 10 were discharged, and 56 cases remained under treatment in hospital at the close of the week, the respective numbers in hospital at the close of the three preceding weeks having been 63, 67, and 55.

Three cases of measles were admitted to hospital, 2 were discharged, there were 2 deaths, and 3 cases remained under treatment at the close of the week. At the end of the 3 preceding weeks such cases were 29, 23, and 4 respectively.

Eighteen cases of scarlet fever were admitted to hospital, 17 were discharged, and 104 cases remained under treatment at the close of the week. This number is exclusive of 14 patients under treatment at Beneavin, Glasnevin, the Convalescent Home of Cork Street Fever Hospital. At the close of the 3 preceding weeks the cases in hospital had been 91, 98, and 103.

Seven cases of diphtheria were admitted to hospital, 10 were discharged, and there were 2 deaths. The cases in hospital, which at the close of the 3 preceding weeks had numbered 39, 48, and 45 respectively, were 40 at the close of the week under review.

In addition to the above-named diseases, 6 cases of pneumonia were admitted to hospital, 3 were discharged, there was one death, and 22 cases remained under treatment at the end of the week.

#### ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, November 1, in 96 large English towns (including London, in which the rate was 14.2) was equal to an average annual death-rate of 13.9 per 1,000 persons living. The average rate for 16 principal towns of Scotland was 14.7 per 1,000, the rate for Glasgow being 15.8, and that for Edinburgh, 11.9.

#### INFECTIOUS DISEASE IN EDINBURGH.

The Registrar-General has been favoured by A. Maxwell Williamson, M.D., B.Sc., Medical Officer of Health for Edinburgh, with a copy of his Return of Infectious Diseases notified during the week ended November 1. From this Report it appears that of a total of 112 cases notified, 74 were of scarlet fever, 24 of phthisis, 5 of diphtheria, 8 of erysipelas, and one of enteric fever. Among the 669 cases of infectious diseases in hospital at the close of the week were 473 cases of scarlet fever, 109 of phthisis, 34 of diphtheria, 16 of measles, 2 of whooping-cough, 10 of enteric fever, and 10 of erysipelas.

## METEOROLOGY.

*Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of October, 1913.*

Mean Height of Barometer, - - -	29.768 inches.
Maximal Height of Barometer (23rd, at 9 p.m.),	30.332 „
Minimal Height of Barometer (29th, at 4 p.m.),	28.857 „
Mean Dry-bulb Temperature, - - -	50.8°.
Mean Wet-bulb Temperature - - -	49.0°.
Mean Dew-point Temperature, - - -	47.0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.334 inch.
Mean Humidity, - - - -	87.6 per cent.
Highest Temperature in Shade (on 13th), -	64.6°.
Lowest Temperature in Shade (on 24th), -	30.0°.
Lowest Temperature on Grass (Radiation) (24th)	28.0°.
Mean Amount of Cloud, - - - -	53.0 per cent.
Rainfall (on 17 days), - - - -	3.760 inches.
Greatest Daily Rainfall (on 7th), - - -	.960 inch.
General Directions of Wind, - - -	S., S.E., S.W.

*Remarks.*

A mild but changeable month. Easterly winds (between N.E. and S.E.) prevailed during the first ten days; southerly (between S.E. and S.W.) winds for the most part afterwards, except from the 22nd to the 25th inclusive, when light northerly winds and calms brought such a reduction of temperature that the screened thermometer fell to 24° at Birr Castle and to 30° in Dublin and at Valentia on the morning of the 24th. Notwithstanding this “cold snap” the mean temperature of the month in Dublin was 2.6° above the average for October. The rainfall was very large—3.760 inches—but it consisted largely of heavy splashes, such as .960 inch on the 7th, .771 inch on the 5th, .445 inch on the 27th, .361 inch on the 10th, and .351 inch on the 28th. In the week ended the 11th 2.152 inches were recorded; in six days ended the 30th, the measurements totalled 1.173 inches.

In Dublin the mean maximal temperature was 56.7°, compared with the average (54.7°); and the mean minimal temperature was 47.4°, compared with the average, 44.3°. The arithmetical mean temperature (52.1°) was 2.6° above the

average ( $49.5^{\circ}$ ); the mean dry-bulb readings at 9 a.m. and 9 p.m. were  $50.8^{\circ}$ . In the forty-nine years ending with 1913, October was coldest in 1892 (M. T. =  $44.8^{\circ}$ ) and in 1896 (M. T. =  $45.0^{\circ}$ ). It was warmest in 1908 (M. T. =  $55.4^{\circ}$ ) and in 1876 (M. T. =  $53.1^{\circ}$ ). In 1912, the M. T. was  $54.9^{\circ}$ .

The mean height of the barometer was 29.768 inches, or 0.072 inch below the corrected average value for October—namely, 29.840 inches. The mercury rose to 30.332 inches at 9 p.m. of the 23rd, and fell to 28.857 inches at 4 p.m. of the 29th. The observed range of atmospheric pressure was, therefore, 1.475 inches.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was  $50.8^{\circ}$ , or  $2.9^{\circ}$  below the value for September, 1913. The arithmetical mean of the maximal and minimal readings was  $52.1^{\circ}$ , compared with a thirty-five years' (1871–1905) average of  $49.5^{\circ}$ . Using the formula, *Mean Temp.* = *Min.* + (*Max.*—*Min.*)  $\times .485$ , the mean temperature was  $51.9^{\circ}$ , or  $2.6^{\circ}$  above the average mean temperature for October, calculated in the same way, in thirty-five years, 1871–1905, inclusive ( $49.3^{\circ}$ ). On the 13th the thermometer in the screen rose to  $64.6^{\circ}$ —wind, S.; on the 24th the temperature fell to  $30.0^{\circ}$ —wind, W.N.W. The minimum on the grass was  $28.0^{\circ}$ , also on the 24th.

The rainfall was 3.760 inches, distributed over 17 days. The rainfall was considerably above, while the rain-days were slightly below, the average. The average rainfall for October in the thirty-five years, 1871–1905, inclusive, was 2.870 inches, and the average number of rain-days was 18. In 1880 the rainfall in October was very large—7.358 inches on 15 days. In 1875, also, 7.049 inches fell on 26 days. On the other hand, in 1904 only .454 inch fell on 11 days, in 1890 only .639 inch fell on but 11 days, in 1884 only .834 inch on but 14 days, and in 1868 only .856 inch on 15 days. In 1911, 3.787 inches were recorded on 20 days, and in 1912, 1.665 inches on 13 days.

High winds (force 4 to 7) were noted on 9 days, but attained the force of a gale on only 1 day—the 6th. The atmosphere was foggy in Dublin on the 8th and 25th. There was a lunar corona on the 11th. Lightning was seen on the 20th.

The rainfall in Dublin during the ten months ending October

31st, 1913, amounted to 24.742 inches on 157 days, compared with 24.323 inches on 171 days in 1912, 16.386 inches on 140 days in 1911, 27.330 inches on 177 days in 1910, 21.106 inches on 158 days in 1909, 12.366 inches on 123 days during the same period in 1887 (the dry year), and a thirty-five years' (1871-1905) average of 23.030 inches on 164 days.

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Mr. C. D. Clark reports that at the Normal Climatological Station in Trinity College, Dublin, the mean height of the barometer was 29.766 inches, the range of atmospheric pressure being from 30.30 inches at 9 p.m. of the 23rd to 28.94 inches at 9 a.m. of the 29th. The mean value of the readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 52.4°. The arithmetical mean of the daily maximal and minimal temperatures was 52.8°. The screened thermometers rose to 65° on the 13th and 18th, and fell to 30° on the 24th. On the 24th and 25th the grass minimum was 26°. Rain fell on 16 days to the amount of 3.60 inches, the greatest fall in 24 hours being .87 inch on the 7th. The duration of bright sunshine, according to the Campbell-Stokes recorder, was 77.6 hours, of which 10.0 hours occurred on the 9th. The mean daily sunshine was 2.5 hours. The mean temperature of the soil at 9 a.m. at a depth of one foot was 53.3°; at a depth of 4 feet it was 54.9°.

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Captain Edward Taylor, D.L., returns the rainfall at Ardgillan, Balbriggan, Co. Dublin (height above sea level, 210 feet), as 4.03 inches on 17 days, the largest measurement in one day being .51 inch on the 29th. The rainfall was 1.41 inches above the average and the rain-days were equal to the average. From January 1 to October 31, the rainfall at Ardgillan has been 26.56 inches on 151 days, or 3.15 inches above while the rain-days were 3 below the respective averages. The highest shade temperature in October was 62.9° on the 13th, the lowest was 30.8° on the 24th. A thunderstorm with hail occurred on the 20th.

Captain E. G. Woods recorded a rainfall of 3.85 inches on 19 days at Milverton Hall, Skerries, Co. Dublin (190 feet above sea-level). This measurement exceeded the average for October by 1.01 inches. The rain-days were equal to the average. The largest rainfall in 24 hours was .42 inch on the 7th. Since January 1st, the measured rain at Milverton Hall

was 24.67 inches, or 3.09 inches above the average ; the rain-days were 156, or 4 above the average. In October, 1907, 4.21 inches of rain fell at this station ; in October, 1910, only 1.33 inches.

At Stirling, Clonoe, Co. Meath, Mr. J. Pilkington registered a rainfall of 4.35 inches on 18 days, the maximum in any one day being 1.08 inches on the 5th. From January 1 to October 31, 1913, rain fell on 158 days to the amount of 26.94 inches. This station stands 231 feet above sea-level.

Mr. T. Bateman reports that the rainfall at The Green, Malahide, Co. Dublin, was 3.725 inches on 15 days, the greatest fall in 24 hours being .55 inch on the 7th.

At the Royal Botanic Gardens, Glasnevin, rain fell on 17 days to the amount of 4.15 inches, the greatest daily fall being 1.18 inches on the 5th.

At the Ordnance Survey Office, Phoenix Park, Dublin, the October rainfall was 4.430 inches on 18 days. The heaviest fall in 24 hours was 1.420 inches on the 5th. The total amount of bright sunshine was 88.2 hours, the maximal duration on any one day being 8.3 hours on the 20th.

Dr. Christopher Joynt, F.R.C.P.I., registered 3.470 inches of rain on 15 days at 21 Leeson Park, Dublin, the largest measurement in 24 hours being 1.100 inches on the 7th. The ten months' rainfall in 1913 at this station amounts to 23.665 inches on 146 days.

The rainfall recorded at Cheeverstown Convalescent Home, Clondalkin, Co. Dublin, was 5.013 inches on 18 days. The heaviest rainfall in 24 hours was 1.380 inches on the 7th.

Dr. Arthur S. Goff reports that rain fell on 17 days at Belfort House, Dundrum, Co. Dublin, the amount being 5.03 inches, of which 1.20 inches were measured on the 7th. The temperature range was from 66° on the 17th to 31° on the 24th. The mean temperature in the shade was 52.6°.

At Manor Mill Lodge, Dundrum, Co. Dublin, Mr. George B. Edmondson measured 4.71 inches of rain on 17 days, the maximum in 24 hours being 1.25 inches on the 7th. The mean temperature of the month was 51.3°, the thermometer rising to 64° on the 13th and falling to 31° on the 24th.

Mr. W. J. McCabe, on behalf of the Right Hon. Laurence P. Waldron, returns a rainfall of 3.97 inches on 18 days at Marino, Killiney, Co. Dublin. The heaviest fall in 24 hours



was .77 inch on the 7th. The average October rainfall at Cloneevin, Killiney, in the 24 years, 1885-1908, was 2.985 inches on 17.2 days.

At Coolagad, Greystones, Co. Wicklow, Dr. John H. Armstrong, M.B., measured 6.20 inches of rain on 20 days, the maximal falls in 24 hours being 1.14 inches on the 5th and .75 inch on the 27th. Thunder and lightning occurred at 2 25 p.m. of the 27th. From January 1 to October 31, 1913, the rainfall at Coolagad amounted to 35.11 inches on 166 days.

Mrs. Sydney O'Sullivan recorded 6.35 inches of rain on 19 days at Auburn, Greystones, Co. Wicklow, the greatest rainfall in 24 hours being 1.36 inches on the 5th. A thunderstorm occurred on the 27th, and lightning at 8 p.m. of the 20th.

Dr. Charles D. Hanan, M.D., reports that 5.96 inches of rain fell on 19 days at the Royal National Hospital for Consumption for Ireland, near Newcastle, Co. Wicklow. The maximum in 24 hours was .99 inch on the 5th. The mean temperature of the month at the Hospital was 51.2°, the extreme readings of the shade thermometer being—highest, 61° on the 12th and 18th ; lowest, 33° on the 24th. The mean maximal temperature was 56.0°, the mean minimum was 46.4 ° Hoar frost was observed on the 22nd, 23rd, 24th and 25th. Thunder occurred on the 27th and 28th. Lightning was seen on the 21st and 28th.

The Rev. Arthur Wilson, M.A., recorded a rainfall of 7.90 inches on 24 days at the Rectory, Dunmanway, Co. Cork. This fall was 2.12 inches in excess of the average. The heaviest falls in 24 hours were 1.53 inches on the 4th, 1.16 inches on the 12th, and 1.05 inches on the 10th with thunder and lightning. There were many fine, bright warm days during the month, which was mild on the whole, although the nights of the 14th, 21st, 22nd and 23rd were frosty. The total rainfall for the completed 10 months of 1913 is 55.87 inches, compared with an average for 8 years of 44.77 inches. A thunderstorm with heavy rain occurred on the night of the 4th, and distant thunder was heard on the 20th. The average rainfall of October for the past 8 years is 5.78 inches.

## PERISCOPE.

### TUBERCULOSIS OF THE URINARY TRACT.

IN a clinical lecture on this subject (*The Lancet*, August 2nd, 1913, page 273) Dr. J. Howell, M.A., M.B., M.Ch. Oxon., F.R.C.S. Eng., says that the most indicative symptom experienced by the patient is "cystalgia," usually a scalding set up by toxic and pathogenic irritants which produce an œdema, congestion, or a minute ulcerative papillitis on the mucous membrane surface at one ureteric orifice, extending to the trigone and the urethral orifice, with considerable discomfort, culminating in severe pain, frequent micturition, and urethral smarting. These painful symptoms are greatly diminished by cystopurin, allowing of an early and complete intravesical examination accompanied by irrigation, not only of the bladder, but *viâ* the ureter, of the pelvis of the kidney. For this irrigation he employs a solution of cystopurin. The establishment of the tubercle bacillus in the mucous membrane in the bladder is favoured by an antecedent affection of the urinary tract. Similarly it is retarded by the diuretic and antiseptic action of cystopurin. Cystopurin, a double salt of hexamethylene-tetramine and sodium acetate, can be employed freely, safely, and effectively in all affections of the urinary tract, whether of toxic or of bacterial origin. It has the particularly satisfactory result of clearing away septic conditions associated with tuberculosis of the kidney, so that the true relation of thrombosis to the clinical urinary condition can be determined, and the desirability of excision of a kidney can be the more accurately gauged.

### THE BRITISH JOURNAL OF SURGERY.

No apology, in our opinion, is required to account for the appearance of this new journal. Its title quite justifies the undertaking. In fact, if an apology is to be offered at all it should be for the non-appearance of such a journal for many years past. The editorial committee contains, amongst others, the names of many well-known and eminent surgeons in Great Britain, and we are pleased to see that Ireland is also represented. The chairman of the com-

mittee is Sir Berkeley Moynihan, of Leeds, and the secretary is Mr. E. W. Hey Groves, of Bristol. The articles in the present number are varied and of a very high standard of excellence. If we are to judge of the quality of the papers promised for future numbers by the eminence of those whose names are given as early contributors, then the success of the journal is assured. Appropriately enough, we have an excellent reproduction of a photograph of the late Lord Lister in this the first number. We believe the journal will fill a long-felt want, and in our opinion the venture deserves the hearty support and co-operation of every surgeon in the British Isles and Colonies. The publishers are Messrs. John Wright & Sons, of Bristol. It will be issued quarterly, the annual subscription being 25s. The number before us is well printed, beautifully illustrated, and contains over 150 pages.

THE "WELLCOME" PHOTOGRAPHIC EXPOSURE RECORD AND  
DIARY, 1914.

IF brevity be the soul of wit, condensation is the essence of literature. Especially is it so in these hustling days, when leisure is with many people reduced to a minimum quantity. It is for this reason amongst others that the pocket guide to photography issued under the above title obtains so wide a circle of readers. It condenses into one small volume, clear, definite, and precise instructions on a very wide range of subjects. All the little wrinkles and dodges which long experience has taught the successful worker are here analysed and set forth in simple formulæ and exact directions such as help the beginner and serve as a useful reminder to the expert. Development, toning, fixing, printing, the various processes of production in warm tones and colours and the methods of dealing with errors of technique are explained, particular attention being directed in the 1914 edition to green and blue toning and the production of various colours by development and other methods. On the subject of exposure this book is the last word, containing in addition to its light tables for each month and factors for plates and films, the special device attached to the cover which tells the correct exposure at one turn of the disc. Much discussion has taken place as to the best method of calculating exposure, but there is no doubt on the

subject if you talk to a man who has used the "Wellcome" Exposure Calculator. As one such photographer put it, paraphrasing an old proverb, "The proof of the exposure is in the negative." Three editions of the "Wellcome" Photographic Exposure Record and Diary are published, one for the Northern Hemisphere, one for the Southern, and the third, a special edition, for the United States of America. The "Wellcome" Exposure Record may be obtained from all photographic dealers and booksellers, and at all railway bookstalls. Price in the British Isles—One Shilling.

#### LITERARY NOTE.

WE have received the October number of Lewis's Quarterly List of New Books and New Editions added to the Medical and Scientific Circulating Library. It contains the books which have been published and added to the Library during the months of July, August, and September. These are not the busiest months for the publisher, and consequently the list does not contain quite so many important works as usual. Amongst the new books we notice Gordon's Hyde Lecture on "The Place of Climatology in Medicine," and Lees' Bradshaw Lecture on "Incipient Pulmonary Tuberculosis," also "Diseases of the Stomach," by G. R. Lockwood, Poynton and Paine's "Researches on Rheumatism." Amongst the new editions of well known books may be mentioned the new Gray's "Anatomy," Muir and Ritchie's "Bacteriology," a new Binnie's "Operative Surgery"—the sixth, containing upwards of 100 new illustrations; Halliburton's "Physiology," &c. Short notices are given to the more important books, and the list forms a useful guide to the scientific publications for the period covered.

#### SHRIMPS FROM SALT.

THE strangest entry in the list of new arrivals at the London Zoo appears against a collection of Brine Shrimps (*Artemia*) which, it is stated, were "bred from Tidman's Sea Salt." This may look like a case of spontaneous generation; but Mr. J. T. Cunningham, who bred the shrimps, told a representative of the Press that the explanation was simple and quite scientific. The sea salt is obtained by evaporation, and the minute shrimps' eggs that were in the salt water, though dried, are still

fertile when they find their way into the packets with the salt. They will remain fertile for a considerable time, and it is only necessary to make a solution of the salt of a certain strength, and leave it in a warm place until the eggs are hatched and the shrimps are seen swimming about in the water. It should be emphasised that there need be no fear by users of this salt of their finding themselves bathing among shrimps; the time required to hatch them is far longer than any one would care to spend in the bathroom.

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## NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

### *Cystopurin.*

MESSRS. A. WULFING & Co., 12 Chenies Street, London, W.C., have recently introduced under this name a new and effective drug, the use of which is indicated in all bacterial affections of the urinary tract. Cystopurin is a double salt of hexamethylene-tetramine and sodium acetate, with water of crystallisation. Its formula is  $(\text{CH}_2)_6 \text{N}_4 - 2\text{CH}_3. \text{COONa} - 6\text{H}_2\text{O}$ . In addition to its disinfectant properties, cystopurin also exerts a noteworthy diuretic action. Its prolonged use in bacteriuria is attended with most beneficial results, and it exercises a distinctly sedative action on the urinary tract. The sodium acetate in this preparation is a complete innovation, and because of its presence the product is able to exert a specific action in ammoniacal, alkaline or neutral urine. The action of cystopurin is therefore that of hexamethylene-tetramine, considerably fortified. By its combination with sodium acetate, which is partially or wholly converted into sodium carbonate in the body, cystopurin changes the constitution of the urine and exerts its specific action on the urinary tract. It produces a more copious diuresis than hexamethylene-tetramine, or than other combinations of this salt which have been hitherto employed. It is indicated in all affections of the urinary tract, embraced by the terms cystitis, pyelitis and pyelonephritis. Rapid improvement is noted in chronic catarrh due to hypertrophy of the prostate and tight old-standing strictures. Cystopurin plays a special part in the treatment of gonorrhœa, whether acute or chronic. Cystopurin is put up in tablets of 1 gramme, each containing 5 grains of

hexamethylenetetramine. It is sold in phials of 20 tablets each. The tablets are readily soluble in water, and the solution has a pleasant, slightly saline taste. It is neither necessary nor advisable to take a large quantity of water with this drug. For adults two tablets three times a day are usually adequate.

*“Tabloid” Adjustable Head Dressing (Large Size).*

As a means of fixing dressings on the head, the “Tabloid” Adjustable Head Dressing, originated and introduced by Messrs. Burroughs Wellcome & Co., makes the roller bandage an anachronism. This dressing, which is now issued in a large size, has been devised for use as a covering in circumstances where the primary dressings are of considerable size. It consists of a cap, split at one side to render it adjustable, and having a back-piece covering the nape of the neck. To the cap a bandage is attached, while the back-piece carries tapes. A pad of double cyanide gauze and a safety pin are enclosed with the head dressing for use in first-aid cases. The large size “Tabloid” Adjustable Head Dressing is applied simply by slipping the cap over the head, and passing the bandage portion round the back of the head, across the forehead, and back again to the starting point, where it is fixed with a safety pin. The tapes attached to the back-piece are tied under the chin, so allowing the bulky dressings to be covered in and secured. For use in operations on the eye, ear, nose and throat, “Tabloid” Adjustable Head Dressing, large size, affords great advantages over enveloping the head with a towel, which is insecure and uncomfortable for the patient and, from its bulk, apt to get in the way of the surgeon and to be displaced. It also affords a ready means of covering the head in the treatment of ringworm, favus, impetiginous conditions of the scalp and so forth. Numerous applications will readily occur to anyone using it. The larger size of “Tabloid” Adjustable Head Dressing, like the smaller, is compressed, and the whole package is small enough to go easily into the watch pocket.

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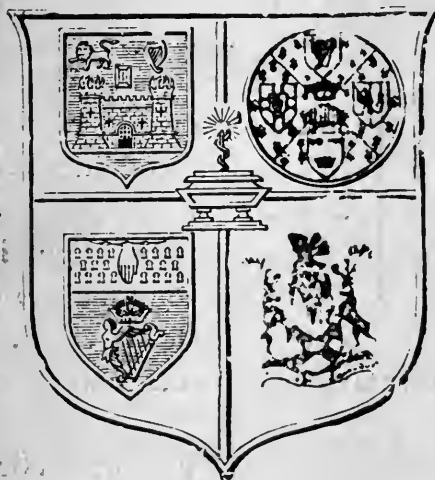
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"**WATER** is an excellent, very active purgative, and  
"of strictly constant composition. Its action is mild  
"and reliable, and a wineglassful acts as an aperient  
"without producing either griping or discomfort. It  
"is the Water specially suited for the treatment of  
"habitual constipation. Moreover, by its special and  
"constant composition this Water appears to me to  
"merit a place by itself in the therapeutics of Mineral  
"Waters."

PARIS, 4th February, 1899.

DR. LANCEREAUX,

*Professeur à la Faculté de Médecine, Paris ;*

*Médecin honoraire des Hôpitaux ;*

*Président de l'Académie de Médecine.*

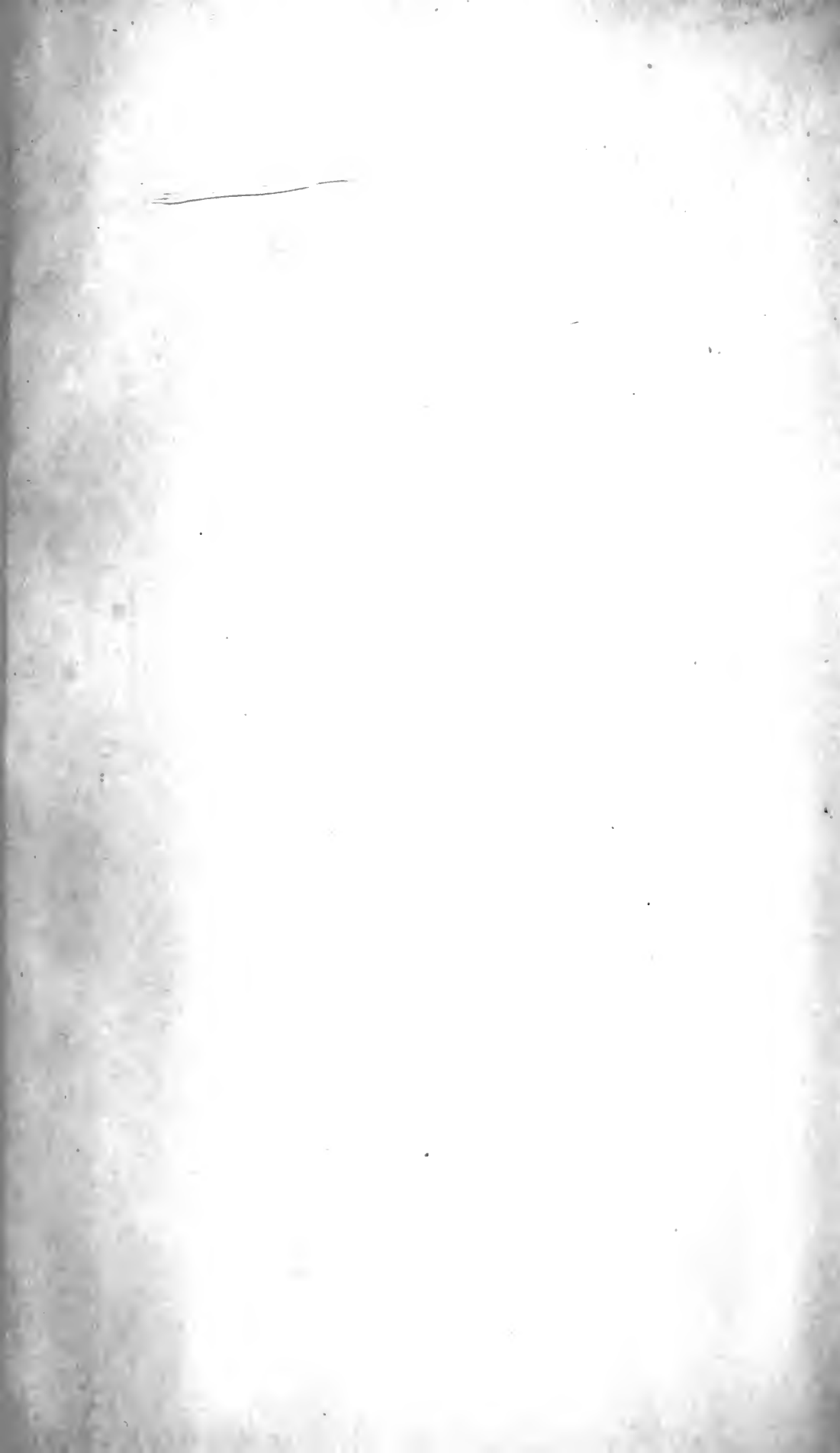


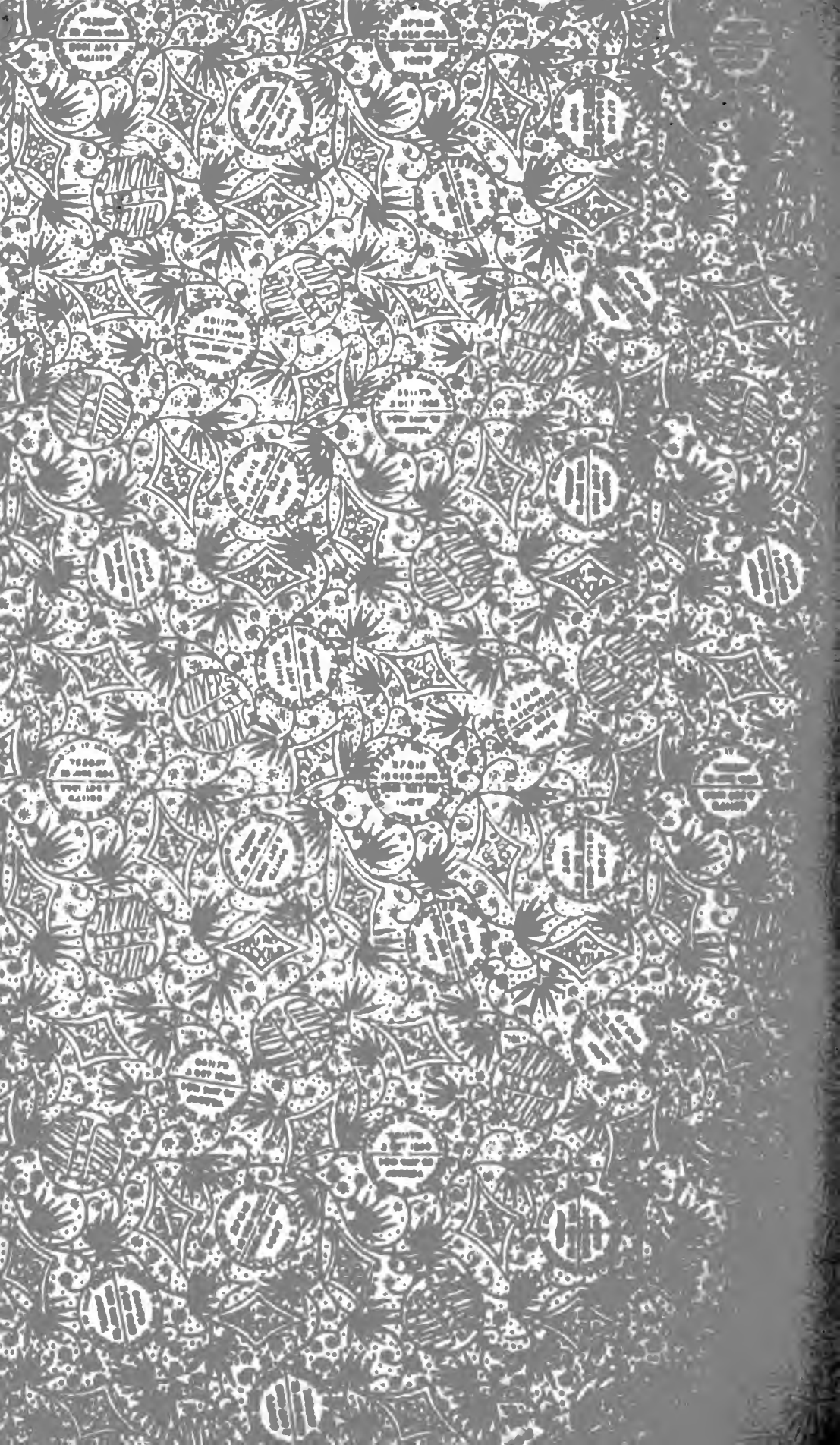
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